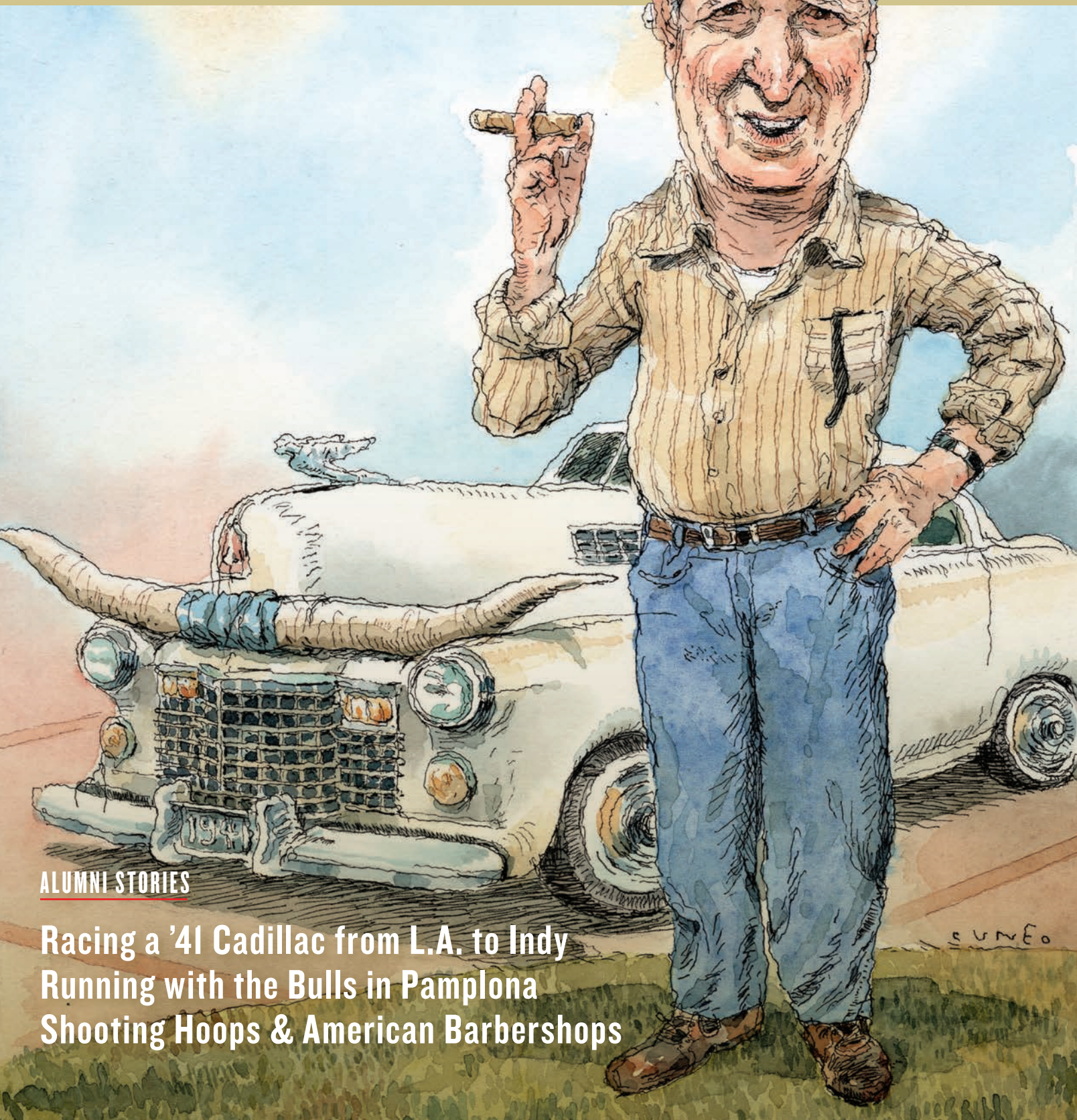
NORWICH RECORD

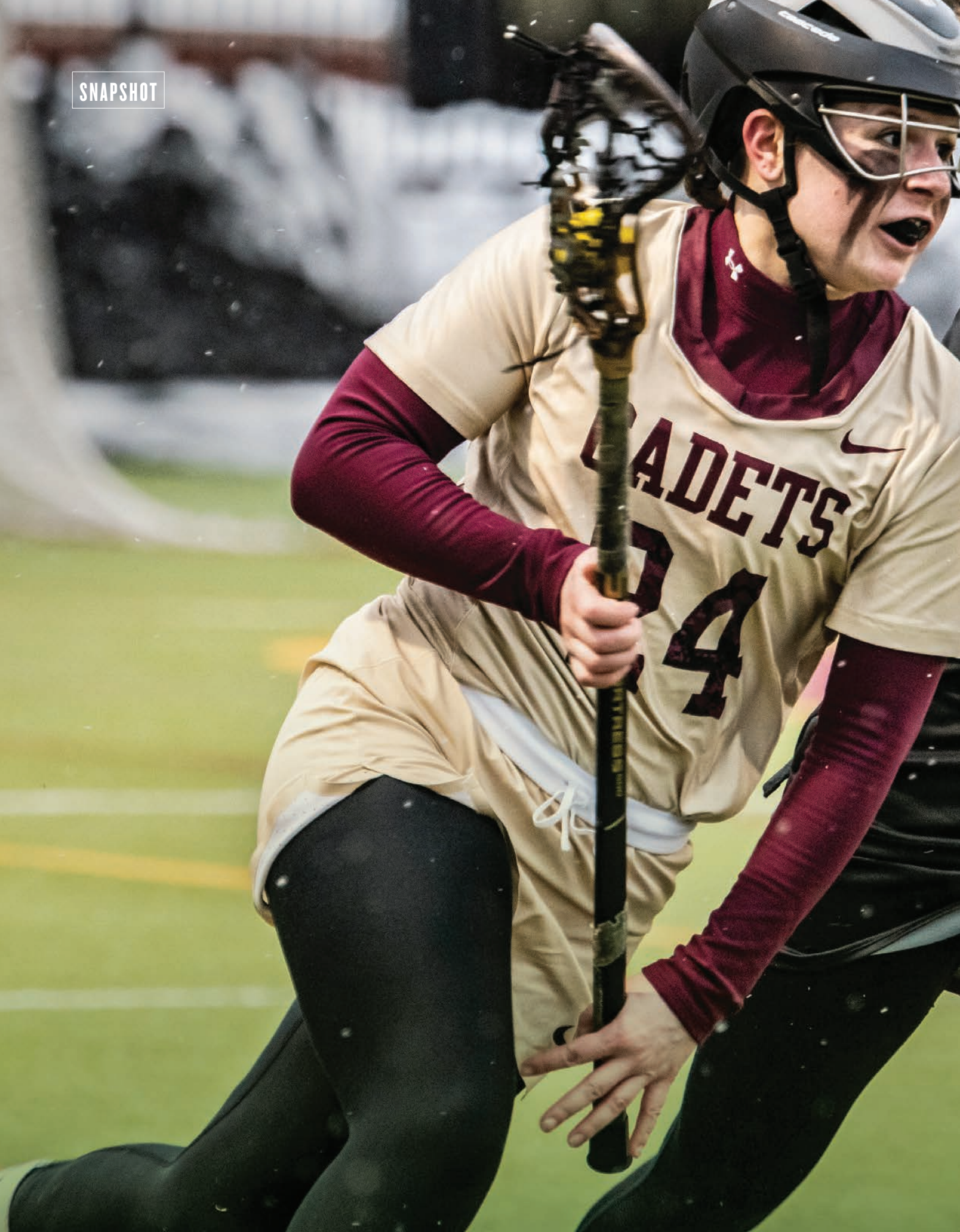
THE MAGAZINE OF NORWICH UNIVERSITY

SPRING 2021



ALUMNI STORIES

Racing a '41 Cadillac from L.A. to Indy
Running with the Bulls in Pamplona
Shooting Hoops & American Barbershops


ADETS
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GAME TIME

Emily Schromm ’21 of the women’s lacrosse team on the attack against Plattsburgh State during a matchup last spring. While Cadets athletes continued to practice and scrimmage on campus over the fall and winter, the pandemic blew the whistle on regular season competitions. But in mid-February, President Mark C. Anarumo announced that off-campus competitions could resume.

Photograph by Mark Collier

NORWICH RECORD

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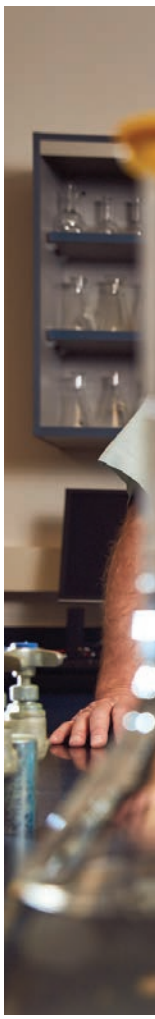
Cover: Michael Anderson '66 and his 1941 "Cadillac Cowboy," winners of the 2,800-mile Great American Race classic car rally in 1983. Illustration by John Cuneo.



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NEWS FROM THE HILL

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CONNECT

Resiliency and Leadership

As our nation and the world continue to struggle through several crises, resiliency has been once again recognized as the critical attribute of a leader and the organization the leader is charged to guide. The pace of change has been accelerating significantly over the past several decades. From here, it will only be growing in speed and complexity. Successful organizations will be those which can adapt most quickly; since an organization adopts the personality of its leader, it stands to reason that leaders today must internalize and master resiliency as a primary core competency.

The term resiliency is not new. We have long recognized it in the leaders we most admire through different names—guts, fortitude, courage, and, of course, grit. Norwich University and our graduates are known for this grit, our scrappiness, our ability to overcome in the face of adversity. This one quality above all others is how we outperform other institutions in placing our students and graduates in critical positions across all sectors and every area of service, and how those students and graduates then earn recognition as top performers and prized leaders.

This grit, this resiliency, is developed at a personal level. Once mastered, it is exported to the larger organization in which one leads. It is, however, important to recognize that this leadership role is not dependent on formal position; it is across all domains and directions. Most leaders influence subordinates by nature of their position of authority, good or bad. Great leaders also lead up, and laterally. We know these leaders as influencers, those who lead in all directions. Those leaders are truly rare, so much so that we recognize them as transformational. They are highly prized, and here at Norwich, we need to start making many, many more of them.

Like most people, I remember each leader in my past, across 30 years of military service, dozens of years in higher education, and brief stints in other sectors. Of course, I remember the worst leaders and promised myself I would never emulate their poor qualities. But the special ones, the ones who lived qualities of resiliency and grit and instilled those qualities in their organizations and subordinates, those are the ones I wanted to be one day.

Of course, there are challenges specific to our current times with which the great leaders of our past did not have to contend. Toxic social media, lapses of ethics in news reporting bordering on misinformation, political polarization, and the lower frequency of building resiliency in children before they attain college age are all significant challenges for a school like Norwich. But we are up to the task.

I have been in uniform since I was 16 years old, first as an enlisted member of the Army and later as an officer in the Air Force. The military through various programs funded a bachelor's, master's, PhD, and post-doctoral fellowship. I owe everything good in my life to two entities: the military and higher education. Every day, in progressively larger scope of responsibility, I have tried to lead as if I am paying back those two professions by imparting lessons to the military members, and now the students and employees, in my charge. Please hear my sincerity when I say this is deeply personal to me.

From the foxholes, tanks, Humvees, deserts, mud huts, old Soviet bunkers, and more aircraft than I can count, my experiences can be distilled down to the following six observations on the journey of becoming a resilient leader:

1. Leadership is a choice. It is not a title or position or some kind of crown. Leaders decide that they must dedicate their lives to others, selflessly, and without limitation. Elevating others is a hallmark of a leader. Instilling resiliency in others, and the entire organization, is the most valuable thing a leader can do. And it must be done through example.

2. Every struggle presents tremendous opportunity. The gift of adversity must be leveraged to strengthen leadership abilities. It is the ultimate opportunity to show integrity and to display grit. Resiliency is contagious.

3. Leaders lead...through the good times and bad. Good leaders take care of their people and build agility and resilient habits when the situation affords time to do so. When the inevitable challenge plants itself firmly in the path or the team's trajectory, the team should be ready, and the leader better be in front.

4. When the crisis abates, the leader gives credit and takes blame. As a leader in crisis, own every failure. Use feedback and assessment to improve

the team, but personally own what did not go well. The things that did go well, which will be numerous if you build resiliency, should be credited to others. Doing so will build an incredible foundation in your team from which they can reach heights of excellence they never thought possible.

5. Your actions during a crisis serve as a model for your followers...and critics. Be calm but energetic. Compassionate but demanding. Critique in private but praise in public. Never forget the organization will assume your personality. Lead the team you want to be part of and build leaders you will want to work for one day.

6. Conduct a brutal self-assessment to learn from failures. It is ok to enjoy the success but embrace the journey. There is always room for improvement. Own the mistakes and write them down for later reflection. There are only three unforgivable mistakes—the dishonorable, the cowardly, and the repeat. Integrity takes care of honor, resiliency enables bravery, and humility ensures growth. Our world has never been more complex. The rate of change and complexity is only going to accelerate. For over 200 years, Norwich University has been known for embracing and building grit. We are about to launch into an elevated phase of this core institutional quality. I look forward to taking the journey together.

Norwich Together, Norwich Forever!

Dr. Mark C. Anarumo,
Colonel, USAF (Ret)
President

News From

RESEARCH GRANT POWER

Norwich University's Applied Research Institutes (NUARI) won two contracts worth $1.12 million from the U.S. Army Engineer Research and Development Center (ERDC). The funding will support energy resilience education and research into Arctic microgrid power systems. Engineering faculty and students have also become involved in some aspects of the work.

"NUARI is ready to leverage our innovative and flexible team of experts in support the ERDC's research of energy resilience and microgrid systems for future use in Arctic and other environments by the Army and the Department of Defense," NUARI President Phil Susmann said. "This work aligns with our goal of serving the national public interest through the interdisciplinary study of critical national security issues."

Vermont Sen. Patrick Leahy has been a booster of the projects. "The importance of having a reliable energy grid in cold weather is something that every Vermonter understands," he said. "With this project with the Army, Norwich is again at the front of designing and developing microgrids that can be relied on in cold weather conditions in the face of the forces of nature and malicious human attackers, and of teaching the next generation of students how to conceptualize and demonstrate competence in approaching these challenges."

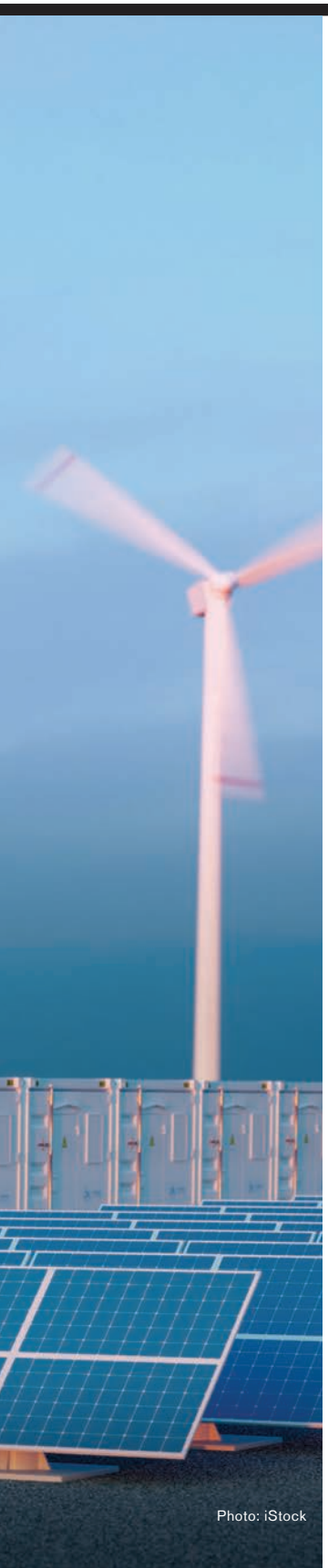

Photo: iStock

IN BRIEF

STRATEGIC ALLIANCE

Norwich recently joined the U.S. Strategic Command's (USSTRATCOM's) Academic Alliance, a partnership that enables NU students to participate in the organization's annual research conference and to apply for paid internships at USSTRATCOM's headquarters in Omaha, Neb. The relationship also opens the door to faculty research collaborations and experiential learning opportunities for students, including war gaming exercises focused on nuclear deterrence.

"We are well positioned to make significant scholarly contributions to the alliance, especially given our role as an emerging leader in environmental security," says Dr. Karen Hinkle, NU's associate provost for research and chief research officer.

ROTC SUCCESS

Army ROTC cadets rated highly during recent branching ceremonies. "Of the 50 active-duty cadets who participated, 45 received their first branch choice, marking a success rate of 90 percent," says Col. Joel D. Newsom, Army ROTC professor of military science. "Overall, 96 percent received one of their top three choices." The average rate nationally is 68 percent.

NU's Army ROTC program was also named the 2020 ROTC Excellence and MacArthur Award winner among the nation's senior and junior military colleges. Newsom says the annual award recognizes the ROTC program that was the most successful in its mission to train and commission cadets.

FULBRIGHT SCHOLAR

The Peace and War Center welcomed Grazia (Grace) Scoppio, PhD, as a Fulbright Canada Research Chair in Peace and War Studies for the spring 2021 semester.

Scoppio is a professor in the Department of Defense Studies at the Royal Military College of Canada with cross-appointments at Queen's University. Her current research focuses on immigrants' participation in the military from an international perspective.

"We are fortunate to have the opportunity to work with and learn from Dr. Scoppio," Peace and War Center Director Prof. Travis Morris says. "She brings a wealth of expertise and knowledge to Norwich University. Our partnership with Fulbright Canada has been an enriching experience for Norwich over the past six years, and we look forward to our collaboration with Dr. Scoppio while she is with us this spring."

FUN FACT

BEEF JERKY CLUB GOES VIRAL

A student organization dedicated to beef jerky was the largest and fastest-growing student club last semester. Club president Thomas Walsh told the *Norwich Guidon* student newspaper that a gift of beef jerky inspired him to share the snack as a way to lift spirits during the pandemic. Many rooks gobbled up the chance to chill, talk, and munch. "It's about building morale on campus and making sure everyone has a good time during the era of COVID," Walsh said.

—Juliet Sear '21

Photo: iStock

File photo (2019) by Karen Kasmauski

QUOTED

"Those of you that have done survival training will know about the rule of threes: You can survive three minutes without air, three hours without shelter, three days without water, and three weeks without food. That's true if you don't live in the Middle East. I would argue that in the Middle East, you can survive about three hours without water under certain circumstances … If you have a water crisis, [people] will almost immediately engage in unrest or riots, because it's an immediate, lethal threat to them and their families."

—**David Kilcullen,** PhD, security strategist and counter insurgency expert. The former diplomat and solider presented "COVID, Conflict, and Water: Lessons From the Arab Spring" during the Norwich University Military Writers' Symposium on *Weaponizing Water: Ancient Tactics, New Implications* in October.

V/R LETTERS FROM OUR READERS

Re: *Norwich Record* Spring 2021 Issue

The "Women in Leadership" issue is a gem. Thank you for producing such a high-quality, inclusive publication that all alumni can be so enriched by and so proud of.

—Greg May '71

CORRECTIONS

A Class Notes update on p. 61 in our Winter 2021 issue misstated the first name of recently nominated Manchester, N.H., chief of police Allen Aldenberg '93.

Due to an oversight in our editing process, a profile of Norwich alum Adam Lazar '05, which appeared on pp. 60–61 of the 2020 Annual Report in our fall issue, contained a number of errors. Among them, the article misspelled the first name of classmate Sam Furlong '05 and slightly overstated Adam's role in several volunteer efforts. We apologize to Adam and our readers for the lapse. The story has been corrected online.

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ATHLETICS

TRIO NOW PRO HOCKEY TEAMMATES

Cadets standouts Kaycie Anderson '15, Sarah Schwenzfeier '18, and Amanda Conway '20 skate for the Connecticut Whale

BY DEREK DUNNING

Three former Cadets women's ice hockey standouts kicked off their 2021 National Women's Hockey League (NWHL) professional seasons in January playing for the Connecticut Whale.

Kaycie Anderson '15, Sarah Schwenzfeier '18, and Amanda Conway '20 (pictured right) were on the ice during a two-week round-robin "bubble" tournament in Lake Placid.

Drawing six pro teams from Boston to Minnesota, the tournament's semifinal and final matches were carried by the NBC Sports Network, the first time professional women's hockey games were broadcast live on national television in the U.S.

This year marks Anderson's fourth pro season with the Whale. She has played in 46 career games, scoring four goals and notching nine assists for 13 points for the team. Last season, she tied for the team lead with 11 points.

At Norwich, Anderson earned Second Team All-American honors her senior season. Finishing her collegiate career with 118 points in 118 career games, she remains seventh on the all-time Norwich scoring list.

Schwenzfeier enters her third pro season with the Whale this year after ranking second on the team with six goals scored last year. She has six goals and three assists in 29 career games with Connecticut.

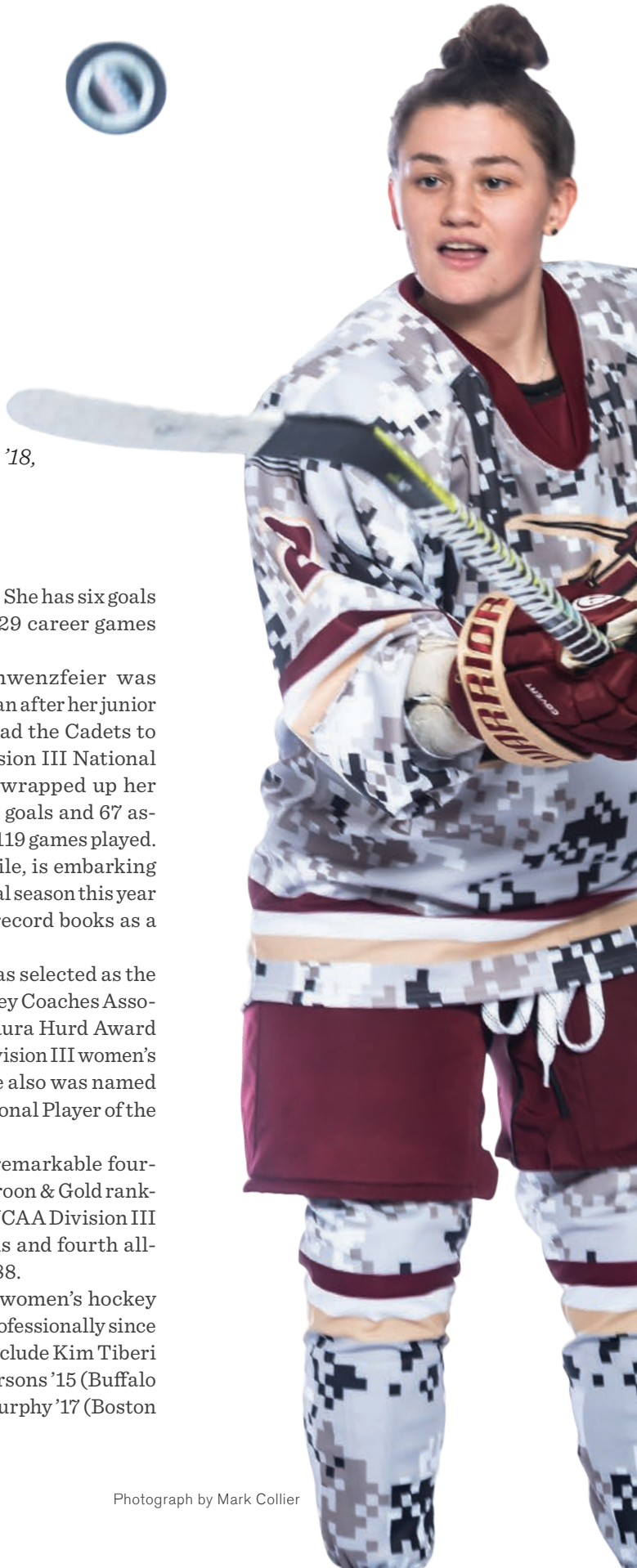
At Norwich, Schwenzfeier was named an All-American after her junior season and helped lead the Cadets to the 2018 NCAA Division III National Championship. She wrapped up her Cadet career with 54 goals and 67 assists for 121 points in 119 games played.

Conway, meanwhile, is embarking on her first professional season this year after tearing up the record books as a Cadet.

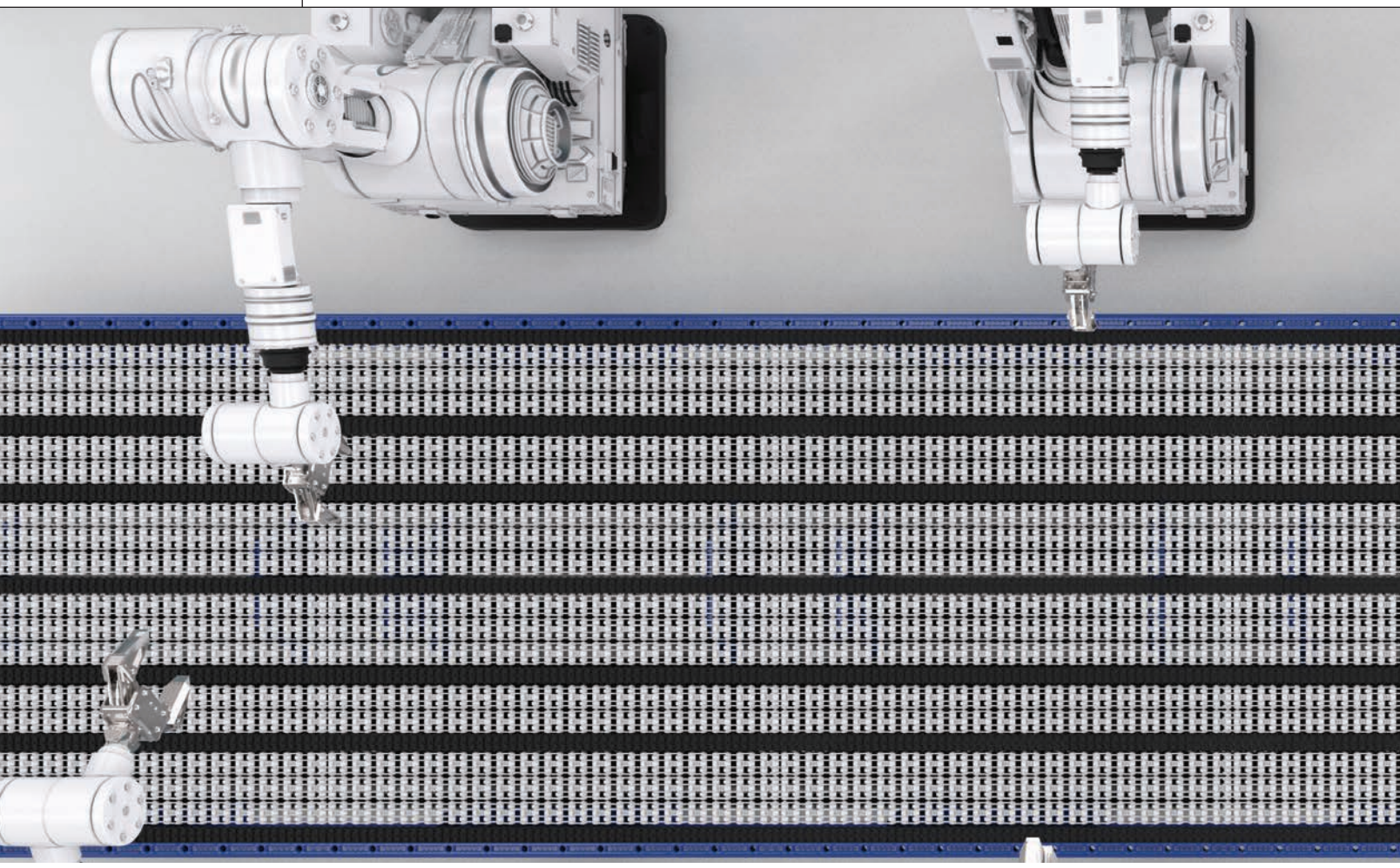
At NU, Conway was selected as the 2020 American Hockey Coaches Association's (AHCA's) Laura Hurd Award as the nation's best Division III women's ice hockey player. She also was named the USCHO.com National Player of the Year.

She finished her remarkable four-year career in the Maroon & Gold ranking third all-time in NCAA Division III history with 116 goals and fourth all-time in points with 188.

In all, six Cadets women's hockey alumni have played professionally since graduating. Others include Kim Tiberi '18 (Whale), Kayla Parsons '15 (Buffalo Beauts), and Adelle Murphy '17 (Boston Pride). ■



Photograph by Mark Collier



FRONTIERS

Connecting Science With People to Solve Problems

Six highlights from senior engineering capstone design projects

BY SEAN MARKEY

LUNABOTICS ROBOT MINER
Gabrielle Caouette ’21, Brielle King ’21, Lizzie Niven ’21, Heather Peterson ’21

Sponsored by NASA and the Vermont Space Grant Consortium, the foursome are working to improve an earlier Mars mining robot design for an upcoming NASA robotic mining competition. Major overhauls include cutting the frame size in half and adding dust mitigation. “We came up initially with five designs, but we didn’t really use them,” Peterson says. “We were so busy trying to fit all of the components into one sketch that not a lot of innovation was happening in any of the given categories.” Instead, the team reimagined their decision-making process, splitting the robot into five categories on which to focus their problem-solving prowess. Results appear later this spring.

PNEUMATIC REGENERATIVE BICYCLE
Akita Lachapelle ’21, Brice Linear ’21, Sam Pappalardo ’21, Joseph Underhill ’21

Inspired, or maybe daunted, by Vermont’s hilly terrain, the foursome is designing an add-on gadget to help cyclists climb hills without a battery or motor. “Our goal is to be able to design a kit that provides power assist to a rider with stored energy through compressed air,” Underhill says. A downtube-mounted compressor and a storage tank for compressed air mounted on a rear bike rack will power a small air motor that engages with a bicycle’s gear cluster. For now, their aesthetic leans more towards Mad Max than Elon Musk. But, hey, it’s a prototype.

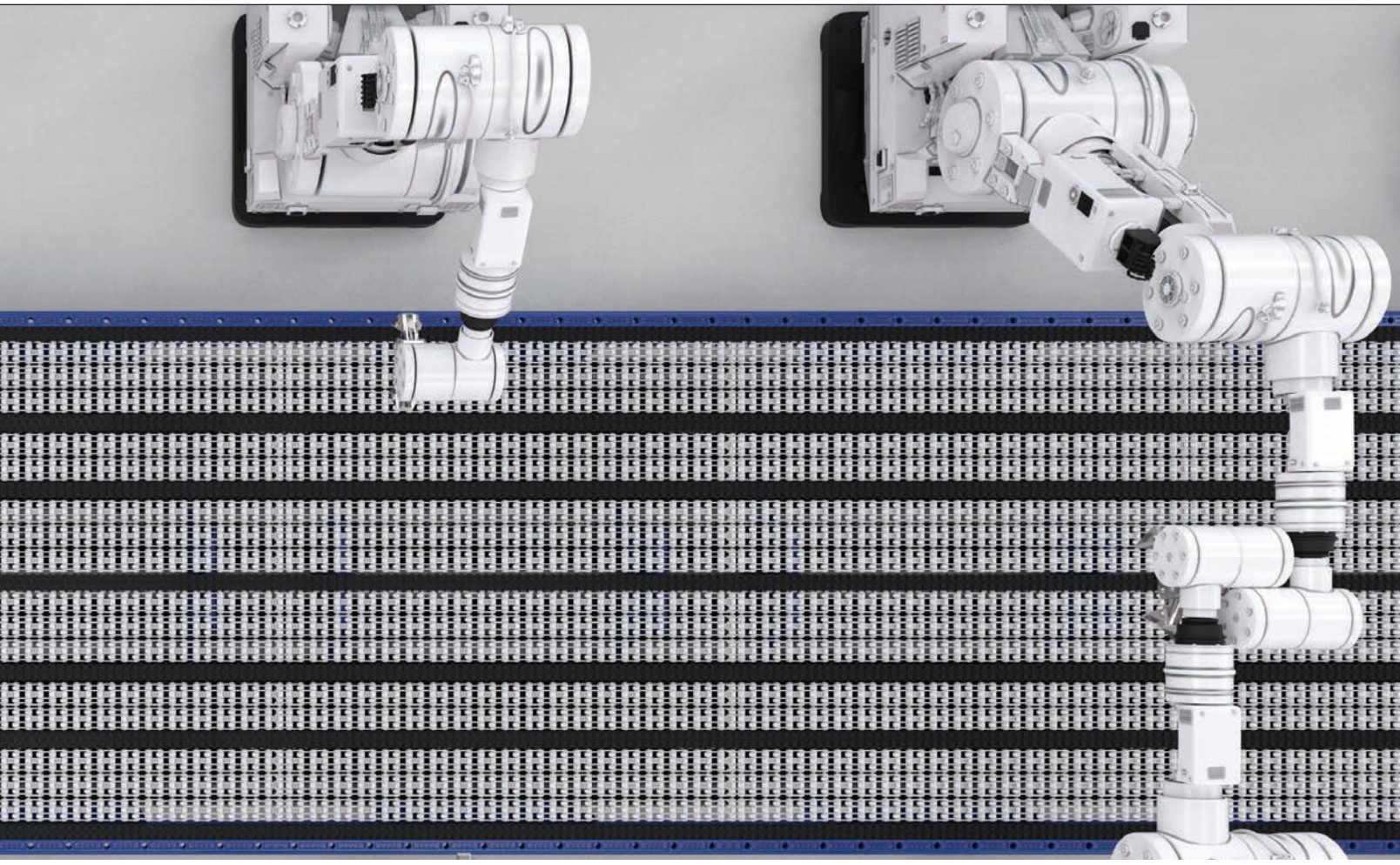


Photo by iStock

LOW-COST ROBOTIC ARM

Chad Merrill '21, Tyler Palmieri '21, Seth Simon '21, Owen Zukatis '21

Industrial robots can increase the production speed and safety of manufacturing plants, but they're not cheap. Looking to save money, a New Hampshire manufacturing firm asked the team to design a 3-D-printable robotic arm that could be built in-house. Combining off-the-shelf components and materials with new thinking, the foursome designed a prototype with an initial projected budget below $2,800. "That's considerably … less expensive than the $120,000 [the company] spend[s] on the robotic arms they have now," Merrill says.

AFFORDABLE SPECTROPHOTOMETER

Tanner Kontny '21, Joseph Clark '21

Asked for help by researchers at MIT, Chemistry Prof. Seth Frisbie and Electrical Engineering and Computing Prof. Michael Prairie designed a low-cost spectrophotometer to screen patients in Honduras for diabetes at a fraction of the normal cost. Kontny and Clark took on the task of reimagining the final product assembly into a more compact, inexpensive, and user-friendly design. "It's a lot of trial and error and then using our skills to go back and fix a problem," Kontny says.

CAPITAL CITY GRANGE HALL HVAC DESIGN

Dylan Wike '21, James Harris '21, Josh Stebbins '21

A 70-year-old Montpelier building used for community events needed an overhaul of its heating and ventilation system. The NU trio designed a new HVAC system capable of making three air exchanges per hour. "Once the system is installed, [we would like to] have it easy to use from some sort of a smartphone or other device," Stebbins says. Thanks to new engineering, the community can now throw their first post-pandemic contra dance without a sweat.

ROOFTOP HAND-CYCLE LIFT

Jonah Faneuf '21, Andrew Levin '21, Nicholas Millward '21, Parker Silva '21

After Peter Way lost his leg, the Army veteran took up hand cycling. (Think bicycle powered by arm cranks.) Storing his bicycle inside his van has proven difficult. So a nonprofit connected Way with the NU engineering majors, who are working to design a rooftop rack and lift to help stow his rig aloft. "He would ideally like a remote control," Silva says, "so he doesn't have to be on top of the van while raising and lowering the hand cycle." Their work spotlights the power of engineering to make a big impact one small problem at a time. ■

PANDEMIC POINT GUARD
Army Maj. Doug Meyer '09 & M'13 on the National Mall near HHS headquarters in Washington, D.C.

Photograph by Karen Kasmauski

BRINGING THE FIGHT TO THE PANDEMIC

Among the first staffers tapped for Operation Warp Speed, Maj. Doug Meyer '09 & M'13 has helped the race to vaccinate the country against COVID-19

BY SEAN MARKEY

A year ago, Army Maj. Doug Meyer '09 & M'13 didn't expect to have a ringside seat to one of the most ambitious vaccination efforts in U.S. history, let alone an active role.

But in May 2020, the career infantry officer was among the first 16 people tapped for Operation Warp Speed, the Trump administration's federal effort to develop and distribute a vaccine to safeguard the country against COVID-19.

Based at the Department of Health and Human Services headquarters in Washington, D.C., Meyer has worked shoulder to shoulder with experts in vaccine research, infectious disease, epidemiology, public health, logistics, and other fields drawn from an array of federal agencies, private industry, and the Department of Defense.

"We've come to work every day focused on the science and driving toward the end state," Meyer says. While the goal has drawn mercifully closer, it has now entered a critical phase of getting shots in arms.

Meyer's official job title is technically chief of operations, but the Norwich alumnus likens the role to a non-shooting point guard. His job is often about catching a request for information or a problem that needs solving and finding the right person on the team downcourt to address it.

He also oversees the program's vaccine operations center, a "command-and-control hub for information," relaying and synthesizing data to help senior leaders make decisions.

"Every one of us realizes that we're living a line of our obituary, and that this is an important and historic effort," Meyer says.

The 12-year Army officer brings diverse experience to his role. A veteran of the war in Afghanistan, Meyer is a former cybersecurity policy strategic planner and a trained speechwriter, who has served as a staff intern with the Joint Chiefs. He also holds two master's degrees: one in organizational leadership from Norwich, the second in policy management from Georgetown University's McCourt School of Public Policy.

Throughout, Meyer says the lessons he learned on the Hill over a dozen years ago as a cadet and history and English double major continue to resonate.

"[They] carry throughout my career," he says. "Lessons like being ready when the time comes, preparing, showing up to do hard work, being ready to hustle," he says. "You're checking your ego at the door and just being ready to be part of a team." ■

ACADEMICS

Apprenticeship Grants Pair Undergraduate, Faculty Researchers

Trading effort for experience, student research assistants help faculty to gain insight into professional research

BY MICHAEL THUNBERG, PHD

"There is so much to cover in most classes, that going into detail about something so narrow like executive orders is impossible ... I was able to broaden my horizons by looking deeply into a topic that I did not even know I enjoyed learning about." Those are the words from Robyn Dudley '22, an international studies and political science double major and my current undergraduate research apprentice. Her point could not be more accurate. No matter how narrowly I focus my political science course on the American Presidency, there is always more material than time. Teaching the course requires attention to the Constitution, rhetoric, powers, institutional relationships, and, last year, impeachment and the constitutional emolument's clause. Covering all this leaves only a single class period to cover a specific topic like presidential executive orders.

Robyn was able to work as my research apprentice, allowing us both to take a concentrated look at executive orders. She was introduced to scholarly works and, together, we co-authored a paper.

Established in 2016, the Apprentice Grant Program is a collaboration between the Faculty Development and Undergraduate Research Programs. The grant program provides a valuable experience for both students and faculty. Students work directly on faculty research projects, allowing them to see the professional side of academia, conduct research, and contribute to the larger discourse on a specific topic. Faculty, in turn, get valuable help collecting and analyzing data, enabling them to advance research projects and inject new material into the classroom.

Last year, Robyn and I worked on a question I have long been interested in, but hadn't yet had time to investigate: Where do presidents claim their authority when issuing an executive order? Robyn read through thousands of executive orders, constructing a dataset that identified each order's constitutional and/or statutory claims of authority. Along the way, I was able to teach Robyn how to identify, collect, and code data that matches a research question. While the double major said she enjoyed reading through executive orders and seeing how presidents wield this tool, it also showed her that the research process can be long and tedious ... which is one reason I was thankful to have an apprentice doing the coding.

Also important was understanding what other researchers said on the topic. In addition to reading executive orders, Robyn and I worked through a syllabus over the summer. We had weekly calls to review progress and discuss assigned readings. Our conversations covered the strength of arguments, critiques of an author's evidence, and how an article advanced the discourse and understanding of executive orders. The nuances in each article made this a challenge. But after a few weeks of guided discussion, Robyn started to make connections across readings and identify critiques reserved for the cramped rooms of graduate seminars. As we worked through readings over the summer, a broader picture of executive order use emerged, including holes in our understanding. One of those gaps includes presidential claims of authority when issuing an executive order. Robyn quickly understood how the data she was collecting would fill that gap and advance the conversation about executive orders.

Our collaboration and discussions allowed me to revisit arguments and think them through in new ways based on Robyn's reading of scholarly articles.

Thanks to her commitment, the project advanced significantly from its early days when it was just a research question. We are now co-authoring a paper, and plan to present it at the Midwest Political Science Annual Conference. There, Robyn will get to see what the academic profession looks like outside the classroom and the impact that research has. The professional experience offers an opportunity for testing ideas, intellectual exchange, and thinking and discussions on an order that can't be replicated on campus.

When she's done, Robyn will have worked through the entire research process from question generation to conference presentation. Thanks to the Apprenticeship Grant Program, she is now prepared to conduct her own independent research. Robyn is applying for a summer Undergraduate Research Fellowship, which will allow her to make contributions to her own area of interest. ■

Assistant Professor Michael Thunberg, PhD, directs the Honors Program and teaches in the Department of Political Science and History.

Advancing NU's Future

Liz Kennedy '01 takes the reins as the university's new vice president for development and alumni engagement

BY DIANA WEGGLER

Dave Whaley '76 and Liz Kennedy '01

Photograph by Mark Collier

Liz Kennedy '01 started fundraising at the tender age of seven. To her parents' chagrin, she would sit at the end of her driveway hawking wares from her latest business ventures: lemonade, painted rocks, friendship bracelets, or other homemade crafts. Which is why she finds it impossible to say no to enterprising young Girl Scouts, who come knocking at her door each spring selling cookies. However, justifying those extra calories, even in the name of charity, was tough until Kennedy hit on a solution: She could send boxes of cookies as thank-you gifts to Norwich donors she was working with.

This is just one of the many personal touches that, together with hard work over many years, culminated in Kennedy's promotion to vice president of development and alumni relations (DAR) last fall. It is a position her predecessor, Dave Whaley '76, held for 23 of the 40 years and counting of his Hill career. Whaley continues to serve Norwich in a new role as executive vice president, advising President Anarumo and taking on strategic projects for the university. (Look for an upcoming profile in the magazine later this year.)

While Kennedy has big shoes to fill, she has proven herself well prepared to take on her new role. The former fundraiser for the USO, NAMI, and other organizations began her Norwich career in 2010 as a development officer, followed by stints as director of annual giving, senior director of development, and associate vice president. In every position, and by every metric, she exceeded whatever goals were assigned to her, becoming one of the development team's top fundraisers, colleagues say.

Along the way, she earned a reputation as someone who could get things done. "My first call, when I've had an issue, was always to Liz," says Jon Allen '94, now head of global automotive practice for Amazon Web Services in Northern Virginia, who got to know Kennedy when he chaired the Board of Fellows and she was his liaison.

Like her predecessor, Kennedy shares Whaley's bias for action in addition to a deep, abiding passion for Norwich. Both leaders are skilled at connecting with people and empowering teams. Both are excellent listeners and even better storytellers. Most important, they both know that in order to be a successful leader, you can't go it alone: You need trusted, loyal grads from all decades to broaden your perspective and help guide you in the right direction. "This is not going to be just me making *Norwich Forever,*" Kennedy says. "It will take all of us, working together."

For more than two decades, Dave Whaley spearheaded all of the "friend-raising" and fundraising efforts at Norwich, with unprecedented results. In 1981, when Whaley was hired as alumni director, there were 17 alumni clubs, roughly half of them in New England. Today there are in excess of 50 worldwide. Under his leadership, the Development and Alumni

> "Everyone has a way to give back to Norwich, whether it is talking to a college-age neighbor about Norwich, calling a prospective student and telling them why a Norwich education is so valuable, hosting a student sendoff, or serving on one of our many volunteer boards."
>
> —LIZ KENNEDY '01

Liz Kennedy '01 with her father.

Relations staff grew from 18 to 31. In 1998, the year Whaley took over as DAR vice president, the Annual Fund raised $2.9M. In 2020, that number was $13.7M. Most impressive, he oversaw four capital campaigns, which cumulatively raised a whopping $256.8M and helped transform Norwich into a diverse, 21st-century university, fully equipped to train future generations of leaders.

Far from being daunted by Whaley's track record, Kennedy draws inspiration from it. Almost from day one, she had her sights set on his job. "Here I am—it's my first week, as the junior fundraiser in the office—and I say to myself, 'I want to be that guy. Come hell or high water, I'm gonna be Dave Whaley. I am going to work hard, advocate for the importance of supporting Norwich, and not stop until I land in his seat.'"

Kennedy's success is a testament to what she calls her grittiness. "When I was applying to colleges, I wasn't great at anything," she recalls. "But I knew how to bring people together, and I could get a project done." Even though her SAT scores were terrible, she says, Norwich took a chance on her when no one else would. Over the next four years, Kennedy applied her grittiness to academics, athletics, the Corps, band—whatever she was involved in. The payback? "Norwich set the trajectory for my life." She developed skills she would apply in her future career and met lifelong friends on the Hill, including her future husband, Logan Potskowski '01.

The same grit that Kennedy possessed as an undergraduate is the same fire that propels her today. "We are only going to be as good as I can motivate our alumni to be," she says. "My job is to get people brought in, to get them to see my passion and know that it's true and that it is something worth investing in, just as I have invested, both personally and professionally."

Lowell Price '93, a vice president with the global pharmaceutical contract research company Evidera, is one of many alumni who have experienced Kennedy's persuasive passion. "What was so special about Liz was that, at our very first meeting, she made me feel like the largest donor Norwich had," he says. "You could see that that was driven by her love of the university and her genuine appreciation for the stories of others."

Colleagues also highlight Kennedy's vision, focus, and drive. "Over time, Liz's desire to achieve her goals and understand all aspects of both the Alumni and Development offices became more and more apparent," Whaley says. He notes that while Kennedy played a key role in the success of the 2015–19 *Forging the Future* Bicentennial campaign, "her success in building a team to exceed the goal was an even greater accomplishment." Whaley believes Kennedy brings a fresh perspective and new energy to the DAR team. "I am grateful for her willingness to accept the torch I have passed to her."

"Liz has worked with Dave for a long time," says Norwich University Board of Trustees Chair Alan DeForest '75. "She is and will be a great successor." Alumnus Jon Allen echoes that sentiment. Kennedy is going to lead us "well into our third century," he says. "That we have a female grad—a plank owner of the women's hockey team—as head of Development is very fitting."

Writer Diana Weggler is the former editor in chief of the *Norwich Record*. Look for her profile of Dave Whaley '76 in the magazine later this year.

Reflections on Giving

A letter from Vice President of Development & Alumni Engagement Elizabeth Kennedy '01

When I was a student at Norwich between 1997 and 2001, the campus was abuzz with transformation. Bartoletto Hall, was under construction, paving the way for the next generation scientists. The rink in Kreitzberg Arena finished construction my sophomore year, further sparking my passion for hockey. It motivated me to establish the first women's club hockey team the following year.

In addition to the physical updates to campus and the opportunities they presented, Norwich transformed my life on a personal level. I met my future husband here, not to mention the special friends who are now godparents of our two children. While my time as a student at Norwich lasted only four years, that experience shaped the trajectory of my life afterward.

My story, which countless other alumni are fortunate to share, is a testament to philanthropy. As a student, I was perhaps only vaguely aware that the *Leadership Campaign* was underway, raising vital funds to make crucial updates to campus and enable world-class academics and leadership opportunities on a cutting-edge campus.

Today, we remain committed as ever to ensuring the hallmark Norwich experience while also navigating the challenges of COVID-19 and the rising cost of higher education. That is why Norwich launched the *Shoulder-to-Shoulder* fundraising initiative last fall. Through May 2023, the university aims to raise $28 million for five strategic priorities: the Norwich Fund, scholarships, a technology endowment, academic enhancement, and planned giving. These priorities keep Norwich relevant, agile, and competitive in today's ever-changing world.

In this and future issues of the *Record,* as in the past, you'll find stories that bring to life the many diverse examples of generosity at Norwich. Members of our Norwich community come from all walks of life. We are united by our love of the university and a commitment to paying the benefits we enjoyed as students, alumni, faculty, staff, and friends forward. By giving what we can, we see that gifts of all size add up to make a strong impact.

Even though we cannot physically stand shoulder to shoulder at present, we need to move forward as if we were. Together, we will channel Norwich's trademark grit, enthusiasm, and dedication to see the university through this challenging time and emerge better and stronger.

Norwich Forever!

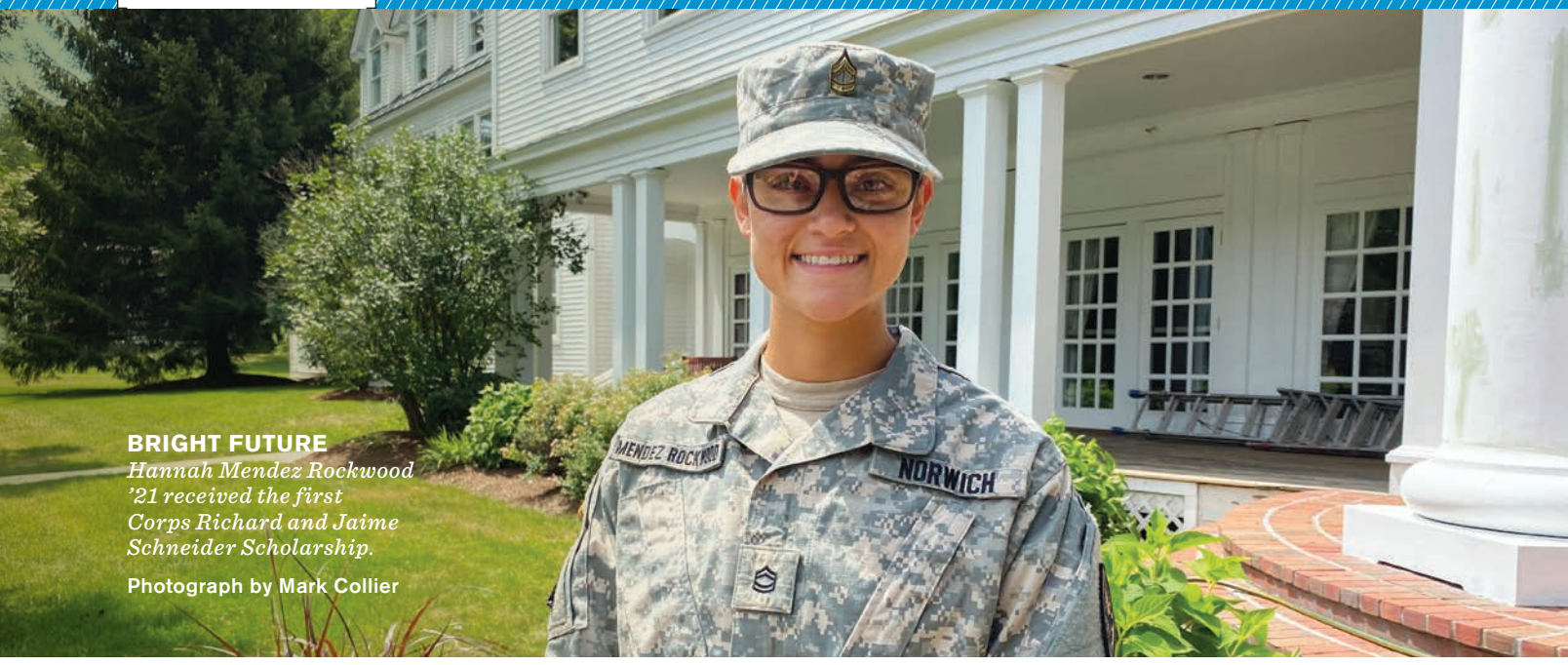
ELIZABETH KENNEDY '01
Vice President of Development & Alumni Engagement

WHY I GIVE

Navy pilot and 10-year annual Partridge Society member Josiah Boggs '15

Now an MH-60S pilot stationed in Norfolk, Va., Josiah Boggs was a physics major from Trumansburg, N.Y., who joined the Corps of Cadets at Norwich and earned a three-year Navy ROTC scholarship following his freshman year. But a failing grade in differential equations the first time through set him back a full year.

"The Navy scholarship did not cover this, so I had to figure out how to pay for it. Norwich stepped in to help by renewing my original financial aid package with a little extra money to make sure that I was able to graduate and commission," he says. "I give back to Norwich because I got the help I needed to cross the finish line and reach my goals. I now want to pay it forward and give what I can to help Norwich ensure others can get to where they want to be."



BRIGHT FUTURE
Hannah Mendez Rockwood '21 received the first Corps Richard and Jaime Schneider Scholarship.

Photograph by Mark Collier

The Schneider Legacy Project & the Richard and Jaime Schneider Scholarship Fund

A celebration of the remarkable career of NU's longest-serving president increases affordability during the pandemic and beyond

BY REED CURRY

Near the end of his 28-year tenure, President Emeritus Richard W. Schneider identified affordability as the number-one funding priority to keep Norwich strong headed into the future. Always a pragmatist, Schneider wished to celebrate his retirement in May 2020 with an investment in the future of the university. In response, the Schneider Legacy Project was established. Gifts to the project are split between the Richard and Jaime Schneider Scholarship Fund and the Norwich Fund, two priorities chosen because they directly enhance affordability: Gifts to scholarships increase the amount of financial aid Norwich can award to students each year, while gifts to the Norwich Fund allow the university to meet immediate and unforeseen needs.

The Schneider Legacy Project was created in February 2020 and it soon became clear just how prescient Schneider's vision of increasing affordably was. Many Norwich students and their families were affected by the pandemic and required more financial aid this academic year. The university was also better positioned to absorb pandemic-related expenses, such as the costs of COVID testing and protective equipment, thanks to the injection of funds the Schneider Legacy Project made into the Norwich Fund.

As of December, over 1,300 gifts totaling more than $800,000 have been made to the Schneider Legacy Project. The first Richard and Jaime Schneider Scholarships, which are awarded to one Corps and one civilian student each year, were also given at the start of the 2020–21 academic year.

Hannah Mendez Rockwood '21, a cadet from Webster, Mass., who plans to attend law school after graduation, received the Corps scholarship.

"Norwich has taught me to be independent, strong-willed, and resilient. These attributes have shaped my future and will allow me to excel in my education, as well as a career in the military," she said. "I am honored to be one of the first recipients of the Richard and Jaime Schneider Scholarship. President Emeritus Schneider set the standard for excellence in leadership. A gift to the Schneider Legacy Project is a direct investment in students like me."

Rockwood says life as a student and cadet at Norwich during the current pandemic has required even more discipline, focus, and perseverance. "Knowing I am supported by the Norwich family gives me the drive to face the challenges ahead, emulating the standard President Emeritus Schneider set during his 28 years of service."

Reed Curry is an assistant vice president of development at Norwich.

PARTRIDGE SOCIETY

The mission of the Partridge Society is to encourage alumni, parents, and friends of Norwich University to help the university achieve its financial goals and to formally recognize those who do so.

The Partridge Society Board of Directors welcomes the following new and promoted Lifetime and 1819 Circle Members and acknowledges new levels achieved between October 1, 2020 and December 31, 2020.

CHAIRMAN'S TWO DIAMOND MEMBERS

($2,000,000–$3,999,999)

Mr. & Mrs. John L. Drew

CHAIRMAN'S ONE DIAMOND MEMBERS

($1,000,000–$1,999,999)

Roderic & Patricia Vitty P'89

FIVE-STAR GENERAL MEMBERS

($750,000–$999,999)

William Lasky '69

Mr. & Mrs. Douglas M. McCracken '70 & H'20

THREE-STAR GENERAL MEMBERS

($250,000–$499,999)

Robert MacDuff '60

Robert L. Sanborn '63

TWO-STAR GENERAL MEMBERS

($100,000–$249,999)

CDR Richard Berkman, P.E., USN (Ret.) '69

Bill '68 & Debbie Blackwood

Mr. & Mrs. Philip Burkhardt '70

Elizabeth Cairns '55, W'54 & P'80

Joseph C. Urciuoli '68

ONE-STAR GENERAL MEMBERS

($50,000–$99,999)

Alan M. M'09 & Ann M. Anderson

John '83 & Karen (Rowe) '83 Broadmeadow

Cheri Caddy '90

F. Patrick Carr, III '70

Daniel Evans '87

Randy '75 & Terry '75 Gaetz

Steven & Susan (Garrison) Liming

Victor Linck M'13

COL & Mrs. William Mooney, USA '86

David '66 & Lee '64 Quincy

Carl '78 & Sue Rubin

Mr. & Ms. Gary B. Simon P'19

COL & Mrs. Barry E. Wright, USA (Ret.) '70

LIFETIME MEMBERS

($20,000–$49,999)

George W. Bowne '75

Robert Closson '82

Mr. & Mrs. Paul Fousek '01

COL & Mrs. Michael S. Heimall, USA '87 & P'16

Neil Hiltpold '65

Mr. & Mrs. Raymond W. Magill, Jr. '75

Vincent '90 & Patrice McDermott

Rick '79 & Ann Mullen P'13

Mr. & Mrs. Walter F. Pardo '91 & Family

Stephen & Alicia Quigley P'22

Peter I. & Gail Richmond

Jonathan E. Starbuck '73

Richard & Carol Suitor

1819 CIRCLE MEMBERS

BG & Mrs. Charles Baumann, USA '64

THE SHOULDER-TO-SHOULDER INITIATIVE

To stay at the cutting edge and continue the university's success, this initiative focuses on five priorities: unrestricted resources that enable NU to respond to unpredictable events like the pandemic, improving affordability through scholarships, technological updates, academic program enhancements, and increasing planned giving in order to create a reservoir of future support for the university. Some recent updates:

The Norwich Fund

The costs of COVID-19 testing for students, faculty, and staff is expected to exceed $1 million this fiscal year. The Norwich Fund aims to raise $9 million through *Shoulder-to-Shoulder,* providing flexible, crucial resources that enable the university to address unforeseeable events like the pandemic to keep the university safe and strong. The Norwich Fund supports other priorities, such as core daily operations and future innovation.

Scholarships

Established in 2008, the Emergency Scholarship Fund was created to provide immediate support to students from families experiencing financial distress caused by the economic crisis. Donald Richmond '52 and his wife, Barbara, were generous lead donors to the fund and continued to provide annual gifts to the scholarship. The fund remains as vital a lifeline as ever, helping students financially impacted by the pandemic.

Technology Endowment

The Davis Educational Foundation awarded Norwich a $9,783 grant to support the purchase of synchronous learning technology for classrooms. The acquisition further enhances Norwich's ability to accommodate remote, online, and hybrid course instruction during the pandemic.

Academic Enhancement

A $20,000 grant from the TD Charitable Foundation, the charitable giving arm of TD Bank, will fund the development of a construction management plan to build Vermont's first tiny house community. Working through NU's Design+Build Collaborative, students and faculty have been creating the next generation of affordable tiny houses for low-income Vermonters.

Planned Giving

Thanks to the generosity of five different alumni, Norwich has raised $2,018,035 in planned gifts for *Shoulder-to-Shoulder.* The donations encompass gifts from a will, retirement account beneficiary gift designations, and a charitable gift annuity.

INSIGHT

TECHNOLOGY AND THE ETHICS OF COMPUTING

Prof. Michael Battig, PhD, returns to Norwich to lead the School of Cybersecurity, Data Science, and Computing

INTERVIEW BY
SEAN MARKEY

NEW SCHOOL LEADER

Director of the School of Cybersecurity, Data Science, and Computing Michael Battig, PhD.

Photograph by Mark Collier

Prof. Michael Battig spent a decade working as a software engineer[1] in industry before his desire to teach college-level computer science inspired him to return to school and earn his PhD. In August, Battig rejoined the Norwich faculty after a 20-year hiatus[2] to lead the newly reconfigured School of Cybersecurity, Data Science, and Computing. Battig specializes in software design and how to teach computer science. But he knows enough about cybersecurity to compare the onslaught of hacks, security breaches, and data thefts by Russia, China, and other state actors against U.S. companies and government agencies as nothing less than a new Cold War. Albeit one that's gone digital. "The work we're doing here couldn't be more important," he says of the program he now leads. In a wide-ranging interview, Battig talks about the future of technology, the wisdom of playing to your strengths, and why he teaches a course on the ethics of computing.

How did you get interested in software engineering?

I've always had an aptitude for problem solving and love the work that engineers do. The thing that has drawn me to this work is that, whether you're talking about cybersecurity or software engineering, this field is one that marries a student's need to be technically astute with being relationally savvy. Good engineers relate well to people, and they're also great problem solvers. You can't underestimate either one of those. Because no matter what you do, if you're building software, you're in the people business. You can't be this quintessential geek who sits in a cubicle and doesn't relate to anybody. You have to be a good communicator. Those soft skills will take you a long way.

When you look at new technologies coming on the horizon, what do you see?

As the saying goes, "It's tough to make predictions, especially about the future." One of the authors that has really influenced me, and I use his work in my ethics class, is a guy named Neil Postman[3], who said the inventor of the technology is not necessarily the best predictor of what will become of it. Postman was not a computer scientist. He was in the humanities.

The driving force when we start talking about things like quantum com-

[1]Battig worked as a systems analyst for JCPenney in Ohio and Texas.

[2]He joined the Norwich faculty in 1998 as an associate professor of computer science and left in 2000 to teach at St. Michael's College.

[3]Postman, who died in 2003, was an educator, media theorist, and cultural critic who wrote about the negative influence of personal computers and technology on education, among other topics.

puting, in my mind, is just an extension of Moore's law[4]. A lot of people have been predicting an end of Moore's Law with integrated circuit chips, for example, that we're hitting a wall in terms of the physics of it. We're getting into the nanometer scale, where the electrons are going to start interfering with one another on the integrated circuit chip. You just can't miniaturize any further. But I view quantum computing as just the next paradigm in the continuation, really the unbridled continuation of [the doubling of computing power every 1.5 to 2 years].

So how does a small school like Norwich stay relevant when it comes to machine learning, artificial intelligence, and similar innovations?

That's a great question. Machine learning and artificial intelligence are hot areas, but they're not new. When I did my PhD in software engineering, I minored in artificial intelligence, and I've been teaching AI for a good 20 years.

But I think that you have to focus on your strengths. I don't care if it's in a marriage, your career, or work here in the school. Our strengths are not going to be cutting-edge research. If you start focusing on your weaknesses, you're going to do what Peter Lynch warned about. He was the phenomenally successful investor who managed the Magellan Fund for Fidelity Investments back in the '80s and '90s. Lynch said the problem with a lot of companies is that they "di-worse-ify." What he meant by *diworsifcation* is that they get into business that they're worse at. I saw this firsthand when I worked in the industry. I had a short stint with JCPenney, one of the top retail companies in America at the time. They decided to get into casualty insurance. They were terrible at it. The whole thing imploded, and I saw firsthand what diworsification can do. We're not going to diworsify Norwich University.

We need to focus on application. We're not going to go out there and try to compete with Carnegie Mellon or MIT, trying to assemble a world-class research faculty. Instead, we're going to ask: How can we graduate students who are knowledgeable of these technologies and understand how they can be applied to the set of problems or knowledge domains that they want to attack?

So what's your biggest challenge ahead?

My vision is that we continue to attract really good students and really good faculty members. I think we've done a good job doing that. But because the world is changing so fast, the competition for faculty members and students in cyber is so fierce that I have to be really vigilant. We have to really work hard at continuing our alliances with the senior military colleges[5], with NUARI, with DoD, with NSA. There are a lot of relationships that have to be continuously maintained, so that we really make the most of these opportunities. I took this position knowing that this is a very successful program. It's the fastest-growing program at Norwich. But complacency would kill it in a minute.

Are there things that concern you about the increased role technology plays in our lives today, especially since the pandemic?

Well, I think that there are a lot of things that concern me about technology. I have five adult children. A couple of them contacted me this fall and said, "Dad, you need to watch *The Social Dilemma*[6] on Netflix." So my wife and I watched it. Literally, almost every major point in the documentary is something that I've been teaching in my ethics class for years: In short, there's also a downside to technology.

I made the executive decision to teach the school's ethics class, CS 330. It hasn't been taught in many, many semesters. I have 20 students enrolled, most are cyber majors. I'm super excited about it. We won't shy away from hard questions about tech's downside. Because I don't want students graduating with this muddle-headed idea that

[4]The observation-based prediction made by Silicon Valley engineer Gordon Moore in 1965 that the number of transistors in computer chips (a.k.a. computing power) would double every two years.

[5]Norwich is the principal investigator of a $10 million DoD cybersecurity grant awarded in September to six senior military colleges. The project aims to stand up cybersecurity institutes to act as pipelines for diverse, next-generation cybersecurity talent.

[6]The 2020 documentary explores how Silicon Valley technology companies use persuasion psychology to hijack our attention span and gather unprecedented personal data in service of predicting and influencing consumer behavior for profit.

> **"I WOULD LIKE TO GRADUATE NORWICH STUDENTS WHO UNDERSTAND THAT LIFE IS MULTIFACETED AND THAT IT'S A LIFELONG ENDEAVOR TO TRY TO UNDERSTAND THE WORLD AND TO BE A POSITIVE CITIZEN"**

technology is just all wonderful. Anybody who thinks there's not a downside doesn't understand what happened on 9/11. It's always a two-edged sword. I want students to have the maturity to understand what's lost in the technology, not just what's gained.

That's where having the traditional view of the liberal arts is important to me. Because the notion of the liberal arts is that students should be liberally educated. I don't mean as capital "L" political Liberals. But rather, that they're not afraid to look at other disciplines and look for the connections between them. What is there in my political science class that I can connect to my computer science class? Are there other common threads? Can I build a coherent worldview that understands not only human nature but technology?

I would like to graduate Norwich students who understand that life is multifaceted and that it's a lifelong endeavor to try to understand the world and to be a positive citizen. This is why the Norwich values mean a lot to me, particularly the idea that we will dialogue with and understand people with different viewpoints. The echo chambers of social media today are creating a weird factor where we're ignorantly talking past one another in many ways. In a small way, I'd like to make a dent in that so that our graduates are as liberally educated as they can be. That includes having a realistic assessment of not only what's gained in technology, but what's lost.

Can you unpack that a little more? How you do examine that in your class?

Technology is great at making things more efficient. To paraphrase a famous author, "When you optimize everything, nothing is fun." So what we're trying to do is look at the human element in the picture. For example, in what ways do we depersonalize life and humanity with technology? That's one of the big questions that I want students to wrestle with.

I grew up near Wayne and Holmes Counties in Ohio, which have the largest population of old-order Amish in the world. I grew up in the midst of that community. I'm not Amish, but I always watched them with intrigue. There were a lot of rumors that would fly around about why they did different things. I remember they didn't use pneumatic tires on their tractors. I asked a mechanic once why not. He said, "They think the devil is in the air." That actually turned out to be nonsense. As an adult, when I began to study the Amish, I found that they're very reasonable people. They spend a lot of time thinking about questions like, "Hey, if we speed this process up, what will we lose in the process?"

I'm not going to become Amish, because the Amish don't use electricity and they certainly don't have a need for computer scientists. But I like that thought process. I really like the fact that they very intentionally think about things like, "If we adopt internal combustion engines on our balers, what will be the impact on our family life?" That's a question Americans don't even think about. I mean, what college student at Norwich is thinking about, "What am I losing through the constant use of my smartphone?"

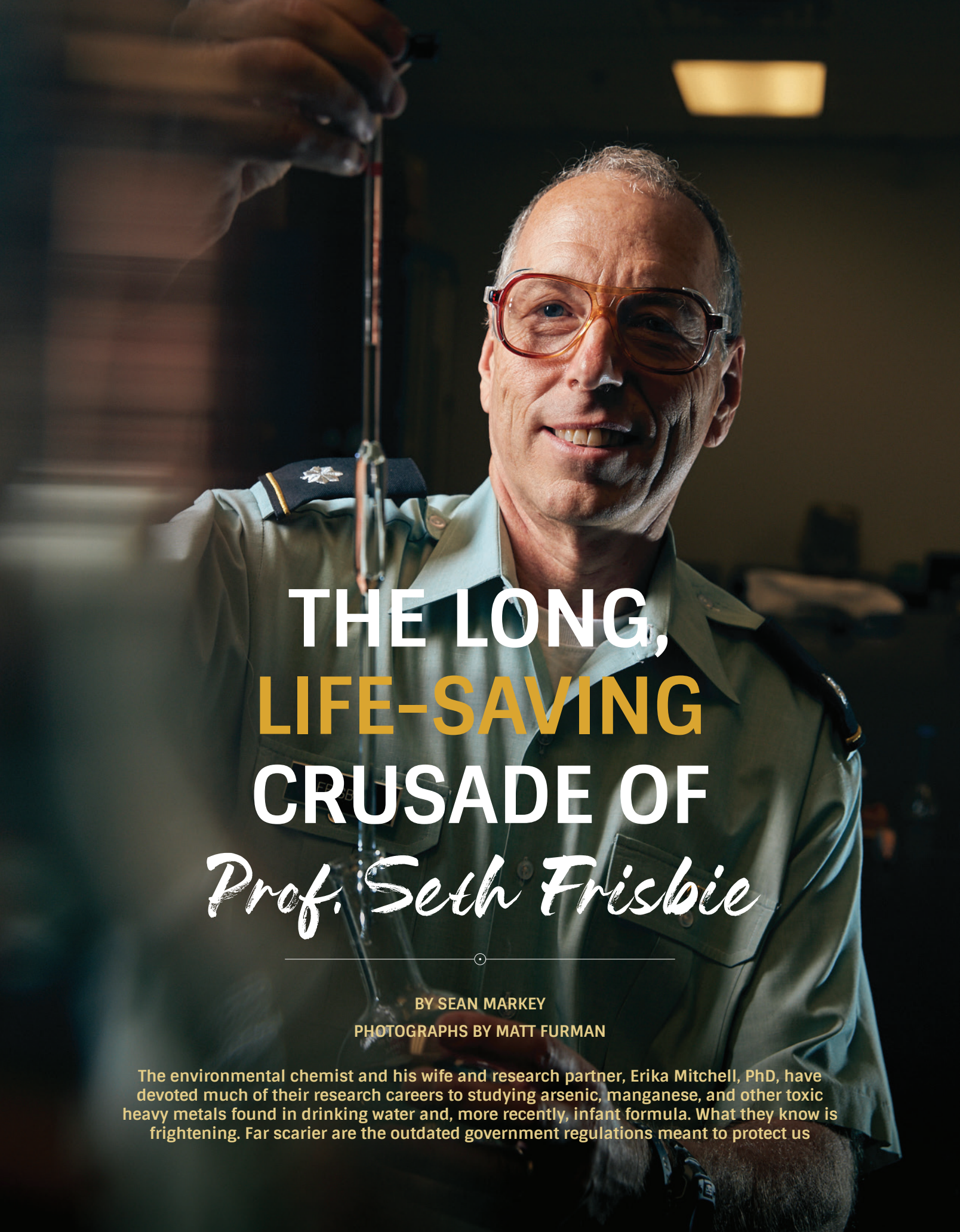
Students aren't thinking about that, and I want them to. I want them to think about questions like, what are the downsides here? At least begin to open it up for a conversation. For my generation, growing up it was the television. We talked a lot about what was *on* television, but we never talked about what is television *doing* to us? What is it doing to our view of education and our view of the political process? Those were bigger questions than, "Hey, what do you think is going to happen on *The Waltons* tonight?"

What about the upside of technology? Do you explore that in your class?

It's sort of a question that doesn't need to be asked. I mean, everybody understands that. Look at the Pfizer and the Moderna vaccines. Right there is an upside to technology. The fact that when I was a graduate student, I had an appendix that started to burst. A hundred years earlier, I probably would have died. Instead, I was given intravenous antibiotics; I had surgery a few hours later; and, boom, I was back in class before long. On the medical-tech side, it's undeniable. Usually, we're talking about saving lives. How about traction control systems on modern automobiles? Most people have no idea how that works, or what that technology is. But that's a computer-based technology that basically prevents you from rolling your car due to oversteering.

The list on the upsides of technology is endless. Americans are really, really good at citing those things. In my ethics class, I don't need to teach the upside of technology. In the American technological society that we grow up in, we're taught implicitly to see all the upsides of technology. But it's a very different gear to look critically at the question what am I losing with this technology? ■

Interview condensed and edited for length and clarity.



THE LONG, LIFE-SAVING CRUSADE OF *Prof. Seth Frisbie*

BY SEAN MARKEY

PHOTOGRAPHS BY MATT FURMAN

The environmental chemist and his wife and research partner, Erika Mitchell, PhD, have devoted much of their research careers to studying arsenic, manganese, and other toxic heavy metals found in drinking water and, more recently, infant formula. What they know is frightening. Far scarier are the outdated government regulations meant to protect us

Nearly every day brought the same parade of human misery. Foot lesions. Hand lesions. Torsos and backs rippled with melanoma. In far-gone cases, gangrene or unseen internal malignancies, including bladder, liver, and lung cancers and vascular disease. Some victims were infants and children as young as one and a half years old. The majority were adults—older, but rarely very old. "I walked into one village where no one was over 30 years old," Seth Frisbie, PhD, recalled. The sick didn't know the true cause of their suffering. Some thought it was leprosy. Others suspected witchcraft. One thing was for certain, though. Death was stalking the villagers of Bangladesh.

Only a brilliant Indian dermatologist working in neighboring West Bengal correctly tied the melanosis and other symptoms to chronic arsenic poisoning. Tens of millions of Bangladeshis were drinking water contaminated with dangerous levels of arsenic and other unknown heavy metal toxins. In 1998, Frisbie was on a quest to identify that anonymous rogue's gallery of poisons and their range across Bangladesh. A blue-collar plumber turned Ivy League PhD, he crisscrossed the country with a government tourist agency driver-cum-translator and a lab assistant from the International Centre for Diarrhoeal Disease Research in Dakha. Riding in an agency-issue rental car with no air conditioning, two horns, and right-hand steering wheel that echoed the country's British colonial past, the environmental chemist was on an urgent mission to solve a public health emergency.

The previous year, the scientist had been part of a United States Agency for International Development (USAID) project to produce the first national survey of arsenic in the country's drinking water, most of it drawn from 10 million deep, groundwater tube wells first dug in the 1970s. Some suggested the source of the arsenic came from wooden power poles supplied by the United States. But arsenic from such a source would seep just a few feet and couldn't explain why Frisbie and geologist Don Maynard were finding the carcinogen as much as 900 feet underground and a dozen miles away. The arsenic was everywhere. The two investigators suspected the source was geologic.

That wasn't the only problem in the water. Borrowing a lab at the national cholera hospital in Dakha, Frisbie conducted tests that suggested the presence of other previously unidentified toxic metals. Without better equipment, however, Frisbie had no idea what those additional contaminants might be or how widespread. Frisbie and Maynard had little doubt, however, that the health implications for tens of millions of people in Bangladesh were dire.

Frisbie and Maynard were so alarmed they approached representatives from the Bangladesh government, the World Health Organization, the European Union, and the World Bank. They even traveled to Washington, D.C., after returning to the States to speak with USAID staff.

"People just didn't get it," Frisbie said. Discoveries in science are usually a thrill, but in this case, it created an unimaginable burden that wore heavily on the Cornell-trained

The damaged feet of a young man in Bangladesh show signs of chronic arsenic poisoning. Photograph courtesy Seth Frisbie, PhD

chemist. "Here he had discovered this huge problem and he couldn't find anyone who was willing to listen," said Erika Mitchell, PhD, his wife and long-time research partner.

The one person who finally did listen was Bibudhendra Sarkar, PhD, a researcher at the University of Toronto and The Hospital for Sick Children. An expert in metal-caused diseases, Sarkar had discovered the first treatment for Menkes syndrome, a rare and fatal disease caused by copper absorption that, left unchecked, kills newborn children within their first four years of life. Sarkar introduced Frisbie to analytical chemist Richard Ortega, who shared a keen interest in the effects of heavy metals on human health. Based at the University of Bordeaux in France, Ortega had access to an enviable lab of specialized equipment, including the university's high-resolution imaging particle accelerator, one of only a few dozen instruments like it in the world. If Frisbie could gather the field samples, Ortega would analyze them. Working together, Frisbie, Ortega, Sarkar, and Mitchell hoped to reveal the cocktail of heavy metals poisoning the water supply of millions in Bangladesh.

With no time to waste, the scientists decided to fund the research themselves. Frisbie and Mitchell both quit their existing jobs in the U.S. so Frisbie could devote the next year to field research in Bangladesh. To support the project,

"There were four people on Earth who knew that there might be another toxin in Bangladesh's drinking water."

Mitchell, who holds a PhD in linguistics and understands 15 languages, soon landed a job teaching English at Zayed University, a start-up college for Emirati women in Dubai in the oil-rich United Arab Emirates. The couple plowed most of her salary into their research.

Taking the advice of a colleague in Dakha, Frisbie timed his field work for Ramadan, when Muslims throughout the country would fast from sunup to sundown, a time when chronic civil unrest in the country calmed. Like his hosts, Frisbie fasted and refused water during the day. At night, he would collapse from sheer exhaustion, often sleeping through the evening meal. After four weeks, he had lost 20 pounds.

Frisbie and his two companions visited three or four villages a day, some only accessible by foot, reached via a dirt path or by balancing atop the dikes of rice paddies. Upon entering, Frisbie would sample local wells and ask to meet the village elder. He would soon find himself seated in the center of the community, as residents described their suffering. Even normally modest Muslim women came forward to expose skin malignant with cancer. Chronic arsenic poisoning can be reversed if it's caught in time, but only before it manifests as cancer or severe vascular disease. Otherwise, the metal continues to accumulate in the proteins in the skin and begins to destroy blood vessels throughout the entire body, leading to gangrene and far worse cancers in the body's internal organs.

"These people were desperate. They were sick and they had no idea why," Frisbie said. The villagers he spoke with were grateful to see someone who cared, who knew what was happening, and who offered some solutions to their problem.

But his fieldwork was paying off, providing the water samples and mapping data he and his colleagues were looking for. At his lab in Bordeaux, Ortega began analyzing the water Frisbie flew back from Bangladesh. Sample after sample confirmed the same grim results. Half of the country's 120 million people were drinking water with unsafe concentrations of arsenic. Another 60 million people were drinking water with unsafe concentrations of manganese, a potent neurotoxin, with some overlap between the two groups.

> "What we're seeing over and over again is that many of these regulations that have been designed to protect public health are based on outdated science that's sometimes 40 years old or even older."

The presence of manganese was especially troubling. An essential nutrient in trace amounts, in higher exposures manganese becomes toxic. Only recently have scientists begun to understand its effect as a powerful developmental neurotoxin in children, one linked to lower IQs, impaired memory function and academic skills, attention deficit hyperactivity disorder, violent behavior, and a welter of other behavior and attention problems.

The discovery marked the first time that manganese had been identified in drinking water and found to be widespread, and it gave the researchers pause. "There were four people on Earth who knew that there might be another toxin in Bangladesh's drinking water," Frisbie said. How could anyone walk away from a problem like that? Frisbie and his colleagues knew they could never live with themselves if they did.

"We had no idea what Seth would find in Bangladesh and how important this would be," Mitchell said. The more they discovered, the more the scientists found there was to learn and bring to the world's attention. "It was just opening a can of worms, and we dove right in."

Frisbie and Mitchell spent five years in Dubai, in all, with frequent return trips to Bangladesh. The researchers proposed a testing strategy to the government of Bangladesh that could provide safe drinking water to 85 percent of the population: Wells with arsenic levels sufficiently low enough to be considered safe by Bangladesh government standards would be painted green. Wells considered unsafe would be painted red. For the remaining 15 percent of the population, water could be treated or sourced from newly dug, safer wells.

The couple also founded a nonprofit, Better Life Laboratories, in 1997, which continues to operate today. It provides research, technical training, and equipment to help people in Bangladesh and other underserved regions access safer drinking water.

Today, the scientists focus much of their research energy on topics related to drinking water and public health, particularly the safety standards national governments and global health organizations set for naturally occurring heavy metals in groundwater.

Frisbie, who joined the chemistry faculty at Norwich in 2006, is a sought-after expert in the field, one who has advised the Canadian government on its drinking water safety standards for copper and uranium. He has also pointed out math errors in drinking water standards set by the World Health Organization. Frisbie and Mitchell collaborate with MIT, the Harvard School of Public Health, and other institutions on projects around the world, from Nepal, India, and Rwanda to South America, Honduras, and the United States. Susan Murcott, a research engineer and lecturer at

RESEARCH PARTNER
Erika Mitchell, PhD, president of the research nonprofit Better Life Laboratories.

MIT's D-Lab, who works on global water, sanitation, health, and climate change issues and is a frequent collaborator, describes him as a "world class" chemist.

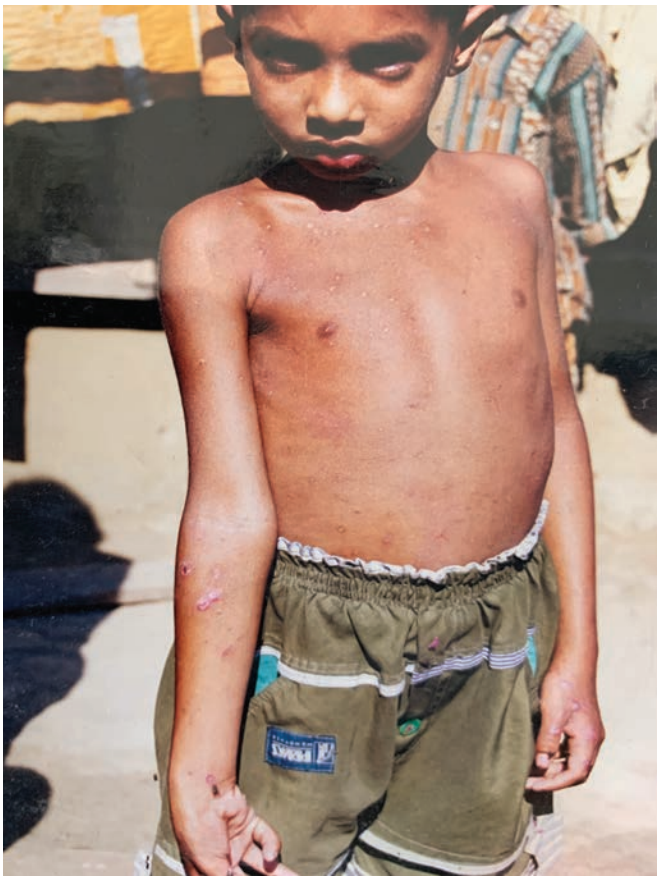
One of the more recent lines of inquiry undertaken by the husband and wife research team has been the manganese content in powdered infant formulas and so-called toddler "follow on" drinks marketed to parents of children under age 3. The parallels to their early experience in Bangladesh has, at times, been unsettling. Only instead of tens of millions of impoverished people living in a far-away country in Southern Asia, the exposed population are infants and toddlers in the United States and France.

In a series of three landmark papers, the latest of which was published earlier this year, the scientists shared the results of a year-long research sabbatical in France working with their friend and long-time collaborator Richard Ortega. One of the challenges in analyzing powered infant formula is its insolubility. (This may seem counterintuitive to parents, but from a chemistry perspective, it is true.) Standard chemical analyses using traditional instruments don't work well. Which may explain why such studies are novel. It also shows where having a colleague based at the University of Bordeaux with access to a warehouse-size, multimillion-dollar, high-resolution imaging ion beam particle accelerator called PIXE at the Bordeaux-Gradignan Center for Nuclear Studies comes in handy.

As with the best telescopes in the world, research time on PIXE is competitive and coveted. During their year-long sabbatical, Frisbie and Mitchell only had a week of "beam time," and even then had to share time with other scientists working on other projects. Using PIXE, Frisbie and Mitchell's team analyzed the manganese content of 44 brands of powdered infant formula and toddler drinks bought off the shelf in the United States and France. The formulas reflected a range of drinks derived from soy, rice, chocolate, cow's milk, and goat's milk-based protein.

Telltale X-ray and Rutherford backscattering signatures revealed that manganese levels in the products were 32 to 1,000 times greater than that found in natural breast milk. The worst offenders were supplemented with manganese salts, such as manganese chloride, manganese citrate, manganese gluconate, or manganese sulfate. A vital nutrient in the faintest trace amount, manganese is also a toxic metal. Only in the last 15 to 20 years has the research community begun to fully understand its function as a potent neurotoxin on child brain development and, more generally, on adults.

According to Maryse Bouchard, a researcher and professor at the University of Montreal's School of Public Health, school-age children with elevated manganese levels have been found to have lower IQs, impaired memory function and academic skills, lower visual-spatial ability, impaired motor function, impaired olfactory function, and atypical



A Bangladeshi boy suffering from chronic arsenic exposure in drinking water shows signs of pre-cancerous melanosis on his arms and torso. Photograph courtesy Seth Frisbie, PhD

brain structure or function. High manganese exposure is also linked to increased risk of attention deficit hyperactivity disorder, behavior, and attention problems.

In adults, manganese can cause Parkinson's-like tremors, liver and kidney damage, hearing loss, violent behavior, and depression. Research has shown that the hair of violent offenders in California contains higher levels of manganese than control groups.

As humans, our need for manganese is so minute that we acquire it in sufficient amounts simply from the dust in the air we breathe, Frisbie notes. For nursing infants, their mother's natural breast milk is an ideal source of manganese.

Yet, a 40-year-old regulation by the federal Food and Drug Administration written in 1980 still governs the manganese content in infant formula sold in the United States. It requires a minimum of 5 micrograms of manganese per 100 kilocalories of infant formula, approximately five times the concentration of breast milk. In Europe, the standard is 1 microgram per 100 kilocalories, which approximately equals the concentration of breast milk.

Most troubling, however, is that U.S. regulations set no maximum ceiling or limit on the amount of manganese that manufacturers can add to infant formulas and related products. As a result, many appear to have followed the erroneous approach that "if some is good for you, more must be better," adding tens if not hundreds times more manganese that necessary. In light of their studies, Frisbie and Mitchell have urged that all manufacturers stop adding supplemental manganese to infant formula.

Their findings highlight the grave disconnect that often exists between science and the latest research and government regulators. As Frisbie and Mitchell wrote in a recent paper, "Evidence-based public policy often comes years or decades after the underlying scientific breakthrough."

"What we're seeing over and over again is that many of these regulations that have been designed to protect public health are based on outdated science that's sometimes 40 years old or even older," Mitchell said.

"It's a very underserved area of science," Frisbie said. "Regulations get set and they become written in stone. They don't seem to change as science advances."

In late 2019, after they published their first paper on manganese in infant formula, Frisbie and Mitchell reached out to the office of U.S. Congressman Peter Welch (D-Vt.) with the aim of alerting legislators and the FDA to the risks posed by excessive manganese in infant formula. Four hours after they submitted a constituent web query, a PhD biochemist on Welch's staff called them at home. Finally, people were paying attention. (In February of this year, an unrelated U.S. Congressional report characterized heavy metals in baby food as "highly dangerous." That report, plus a self-study on heavy metals in baby food, requested by the FDA from large U.S. producers, suggest greater regulatory scrutiny if not a wholesale overhaul may finally be on the horizon.)

In January, the couple learned that their latest paper, a critical review of international regulations relevant to manganese ingestion in infants, had been accepted by *The Journal of Trace Elements in Medicine and Biology.* Full of technical detail and dense analysis of the scientific studies used by the U.S. Environmental Protection Agency, World Health Organization, European Union, and the Institute of Medicine (IOM) to set limits for manganese in drinking water, it is not exactly coffee table material. But it's the kind of work that one might expect people in the right places, i.e., the staffs of our government representatives and federal regulatory agencies, to read and pay attention to. At least, one would hope.

As the scientists point out in their paper, digging to find the original research upon which government regulations are based, in this case manganese, often reveals old and outdated studies. Often they offer "very little scientific basis" to guide regulation, Mitchell says. The Institute of Medicine (since renamed the National Academy of Medicine), for example, set the upper limit for the ingestion of manganese on a single Canadian study from 1982. "They did a dietary survey for three days of a hundred university women," Mitchell says. "What did you eat for food? Okay, the [person] who ate the most manganese, that's the upper limit. They didn't measure any health outcomes. They didn't

even measure weight in this dietary study. So, there was no idea of how long the exposure had been going on. They didn't measure or look for any health outcomes for either the low ingestion levels or the high ingestions levels. Looking at the entire study, there was … probably around 10 women [who] supposedly ingested 10 milligrams per day, with no measurements of whether or not this affected their health. And the IOM used this to set an upper limit [for manganese]. And then the World Health Organization used the IOM figure for setting their drinking water regulation."

One of the other major takeaways from Frisbie and Mitchell's work is that safety standards used by rich and poor countries to govern the amount of arsenic in drinking water is often not governed by the amount that is deemed safe, or reasonably so, for humans. Rather it is often set at the minimum level that most laboratories can easily detect. To put that another way, it is like setting the speed limit around school zones at 80 m.p.h. simply because our police don't have better radar detectors.

When he left high school, Frisbie didn't imagine he would attend college. He trained briefly as machinist and, later, as a plumbing apprentice, going to work for his parents' plumbing business in Marshfield, Mass. One day, while working on a job at an area hospital, a piece of Sheetrock fell from the ceiling as Frisbie reached for a tool. The slab made "a perfect on-edge karate chop" against his spine. Seriously injured, Frisbie couldn't walk for three days and was sidelined for months afterward. His orthopedic surgeon refused to operate, believing there was an equal chance he would make matters worse, not better. The doctor told Frisbie he needed to find a different line of work, one where he used his brain instead of his back.

Frisbie followed that advice and ignored his father's—who thought college was an escape for young people avoiding life—and put himself through the University of Massachusetts at Amherst. His finances were so tight, he could only afford the college's 10-meal-a-week dining plan. He would eat two meals a day during the week and fast on weekends. If he made tea, he would save the bags and eat the leaves inside. If he had dined better, he may never have met his future wife. "I saw this guy gorging himself on Friday nights, eating two or three meals in one sitting," Mitchell recalled. "I thought, what is going on here?" The two got to talking and when Mitchell realized the tall freshman didn't have enough to eat, she started bringing rice and beans to him in his dorm room on Saturday nights.

Frisbie's academic skills were rusty at first. But he soon proved himself to be an outstanding student, graduating among the top 12 students in his entire class and earning a scholarship to attend graduate school at Cornell. Mitchell followed him there, writing her 900-page doctoral thesis on Finno-Ugric languages. After graduation, Frisbie worked as a chemist at three different engineering firms, until his experience in Bangladesh forever altered the course of both their lives. As Frisbie likes to joke now, he rescued his wife from a life of prosperity.

One of his biggest challenges today is time. "I have more work than I can do in a hundred years," he says. Teaching at Norwich to train and inspire the next generation of chemistry leaders is one way Frisbie hopes to solve the problem.

U.S. Army Medical Corps 2nd. Lt. Gregory Wilkins '18 is a former student now in dental school at NYU. Wilkins describes Frisbie as a committed educator and dedicated mentor who involves students in consequential research. As an undergraduate, Wilkins spent three years helping Frisbie build a novel instrument to detect arsenic in drinking water at concentrations a thousand times lower than that detected by most routine laboratory tests.

> "I tell my students who are interested in public health that you have the potential to benefit many millions of people and that you also have the potential to harm many millions of people."

Frisbie's other projects include an inexpensive spectrophotometer designed in collaboration with electrical and computer engineering Prof. Michael Prairie, PhD. While commercial devices run many thousands of dollars, their instrument uses just $64 in parts. The price point has opened new applications in many low-income countries, including projects to test drinking water for uranium in India and to screen patients for diabetes in Honduras.

Former biochemistry major Kenneth Sikora '16, who is now studying for his medical degree at Dartmouth's Geisel School of Medicine, says meeting Frisbie during a campus visit in high school was what inspired him to attend Norwich. He describes his former professor and mentor as a model of "scientific excellence and integrity, empathy, service, and ethical responsibility."

Thomas Bacquart, a French research scientist based at the National Physical Laboratory in England who has collaborated with Frisbie over the years, says Frisbie's work is distinguished by its innovation and cutting-edge ideas. While the trend in research today is to tackle increasingly complex and esoteric areas of inquiry, Frisbie's are always

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A RITE *of* PASSAGE

How do we become men when there's no test to pass?

BY FRANK MINITER '96

The loudspeakers announced death was due in four minutes.

An American grabbed my left arm in the packed plaza in front of Pamplona's town hall and implored, "How do I get out of here?"

Twenty minutes before he was boastful. Ten minutes before he was nervous. Now he looked likely to wet his pants. I shook my head. Like all of the runners in the *encierro,* what the Spanish call Pamplona's "Running of the Bulls," he was trapped.

We'd been waiting nearly a half hour for the bulls. If you wish to run with the bulls of Pamplona you must pass through the barriers before the police close them at 7:30 a.m. You must then stand in the street feeling anxiety ferment in your gut until the bulls are released at 8 a.m. Thirty minutes is a long time to ponder disembowelment.

At 7:57 the men, and a few women, in white shirts and pants and red sashes and bandanas, all looked up and jeered as a couple climbed a drainpipe. As they climbed onto an oddly empty balcony the woman's dress caught on the rail and everyone in the street got a long look at her bright blue panties. Then she tumbled onto the balcony and everyone laughed like it was the funniest thing they'd ever seen.

The light moment flitted away. Stomach acid seeped into my mouth. I wondered how the bulls would get through a packed street that resembled a mosh pit at a heavy metal concert. I looked up at the blue sky and saw onlookers overcrowding tiny steel balconies for six stories above, all hoping to see blood. Below them people perched, legs dangling atop barriers all along the jostling street; they'd been there so long their urine wet the pavement below them.

I stood where the festival had begun two days before with the *chupinazo,* a street party that explodes when the mayor shoots a rocket at noon. When the rocket goes off people pour water and wine from the balconies on a dancing, singing horde all dressed in white and red. Since the opening ceremony the wine had mixed with urine, vomit, and other things. I shuffled my feet and hoped I wouldn't slip on the slick stone and fall sprawling under the bulls.

Then 7:58 came and men began diving from the balconies onto the street. A group of Brits began singing and locking arms as they bounced on the balls of their feet, finding courage in each other. Somewhere a pena played, its drums echoing like a far-off avalanche rumbling to the bottom of a Rocky Mountain canyon. Meanwhile, a recurring announcement broadcast in a dozen languages sounded like a conscience: "If you're knocked down, stay down until the bulls pass … "

I glanced left and saw that the American who'd grabbed my arm didn't understand. He didn't know that in 1995 another American, Mathew Peter Tassio of Glen Ellyn, Ill., who incidentally had stood right where we were, had been killed because he ignored that advice. Tassio made two fatal mistakes: When the bulls pound-

RUNNING WITH THE BULLS
Frank Miniter '92 in Pamplona, Spain, tests his courage. Photograph courtesy the author

> "The American decided to prove his manhood and the Spanish cop was there to make sure he did so with honor."

ed close he sprinted across the street, not with the crowd and the bulls, as you should; as a result, another runner knocked him down. Then he broke the cardinal rule of running with the bulls: He got up in front of a bull. A Spanish fighting bull is a wild animal. It will destroy whatever moves in front of it. Its horns are sharp and curved forward. The lead bull drove a horn into Tassio's aorta and flung him across the street without even losing its place at the front of the herd. Tassio got to his feet once more before falling dead.

I knew this and other things because Juan Macho, my guide to the *encierro,* a man who had run over 80 times, had taught me how to run, and survive. With the knowledge came understanding and a deeper appreciation for running with the bulls. Knowing how to run controlled my fear. The American beside me didn't know what he was supposed to do, and he found himself trapped in madness.

Suddenly 7:59 was on us and medical workers hurried into spots alongside policemen positioned between a fence and a barrier. The American next to me saw the medical teams and caved into himself. This was real. It was happening. There was no escape.

The crowd began to shudder in waves. One such tremor broke the American. He shouted some awful thing and tried to crawl under the heavy wooden fence and away. A Spanish cop kicked him in the head and shoved him back out alongside me. Blood dribbled from a small cut on his forehead.

Meanwhile, runners were losing their nerve, some were running early. The Spanish call those who run before the bulls arrive *"valientes,"* which ironically translates to "brave ones." With their departure there was suddenly elbow room. I anxiously stretched, looked back to where the bulls would come, and breathed deep as I worked to restrain my fear.

I glanced left and saw that the American's expression looked like someone in a Goya painting. His eyes were too big; his mouth roved around his suddenly fluid face. He was mad. He had to get out. He dropped onto the ground and rolled under the fence. The cop waiting on the other side clubbed him with his baton and kicked him back into the street. Then the officer bellowed something in the gyrating scene I shall never forget: "You wanted to be a man and run with the bulls; now you must be a man and run with the bulls."

The Spanish officer's face looked carved in granite. He stood so straight his spine bent backward. He had the proud bearing of a drill sergeant. He wasn't to be trifled with. But the American didn't want to die. Half the runners had already fled toward the arena. Those left were waiting, set like sprinters but all with the expressions of people watching a racecar lose control and come for them.

8:00. *Boom!* The cannon announcing the bulls were out of the corral and coming prompted more runners to become *valientes.* We had seconds.

A moving roar echoed closer as the spectators in the balconies sighted the bulls. Six black Spanish fighting bulls and as many steers running to guide them to the bullfighting arena were nearly upon us.

Nooo!

The American went under the fence again. The cop swung his club with calculated viciousness, but the American was too panicked to notice. The officer picked up the American who wouldn't be a man and tossed him into a brick wall behind the fence. The American fell limp, wetting himself as he slid to the stone street.

The bulls came. I ran.

Later, I told people about the hapless American. The veteran runners who gather at the Bar Txoko after the run shook their heads. Less experienced men laughed, then grew outraged that the cop had beaten him. I pointed out that if the cops allowed people to clamber over the eight-foot-high wooden fence, then people would get hurt in the panic as they pushed and fell over the barrier. Worse, their desperate escape might cause a jam the bulls would have to horn through in the tight streets of Pamplona. People would be trampled. Such an event occurred right before my eyes at the *callejon,* the gates of the Plaza Del Toros (the bullfighting arena) where the street narrows from something like a two-lane road to a one-lane. Dozens were trampled. Several were gruesomely gored. This is where Hemingway decided to have someone killed in *The Sun Also Rises* and where many others have met their end.

But all that was beside the point. The American decided to prove his manhood and the Spanish cop was there to make sure he did so with honor. Proving your manhood was once ritualized into coming-of-age feats and ceremonies. For a boy to become a man in the Maasai society he must endure a painful circumcision ceremony in silence, as acknowledging pain brings dishonor. The Cherokee required a boy to sit silently in the forest blindfolded the whole night

> "Today the transition from boy to man is a subtle shift, marked more by ages than feats. At eighteen we can vote, smoke, and die for our country. At twenty-one we can drink. These are earned merely by living, not doing."

through listening to every sound and not knowing if man or beast was about. The bravest Cheyenne warriors would rouse a sleeping grizzly and then attempt to outrun *Ursus arctos horribilis.* Many nations had mandatory military service—some European nations still do. A few cultures, such as the Spartans, had tests of endurance and skill. Others used brandings, body piercing, and other acts of mutilation, during which a juvenile had to remain stoic in order to enter manhood.

Today the transition from boy to man is a subtle shift, marked more by ages than feats. At eighteen we can vote, smoke, and die for our country. At twenty-one we can drink. These are earned merely by living, not doing. Just a few generations ago only the wealthy stayed in school and out of the trades into their teens, but now we pamper youth and grumble that they're growing up too fast, when what we really mean is they're exposed to sin too soon, not to manhood—strip clubs, alcohol, and tobacco are considered manly things, but surely don't make men of boys.

So how do we become men when there's no test to pass? After all, despite the lack of a rite of passage, being a man is something we try to achieve, at least the best of us. And there's more to being a man than climbing the Matterhorn, shooting 100 on the sporting clays range, or dropping a bully with a right hook. There's being a father, a husband, a good brother and citizen. Being a man is being a *mensch.* Being a man means doing the right thing when nobody's looking; it means biting the bullet and taking the hit (in life) even when you're not going to profit—especially when you're not going to profit. Being a man means suffering in silence, knowing how to keep your mouth shut, but still not being afraid to speak up. It means being the White Knight, Robin Hood, George Washington, and Roland all rolled into one. It means speaking softly, yet carrying a big stick. It means knowing how to say you're sorry, and mean it. It means keeping your own counsel and knowing when to seek advice—very tricky life-stuff. It means understanding the phrase, "Duty, honor, country." It means having

The author with his guide Juan Macho.

the know-how to solve a crisis. It means not panicking in an emergency. It means being a hero when no one is looking. It means knowing how to survive, lead, and show others the way.

Being a man means standing your ground when you must, but not seeking glory by harming or dominating others—a man is never a bully. The underlying reason Ahab in *Moby Dick* is a monster, not a man, is because he holds his wrath higher than the lives of his crew.

Being a man means endeavoring to find the correct path. Hamlet doesn't become a man until he dies because, left fatherless, he is forced to take the steps to manhood alone and so attempts immature machinations before standing up boldly for justice and then dying as a man of courage and honor. Characters such as Holden Caulfield in J.D. Salinger's *The Catcher in the Rye* are tragic because they're rudderless in adolescence, and so, like Hamlet, tread a rudderless path to manhood. Others, such as Harvey in Rudyard Kipling's *Captains Courageous,* become men more easily because a man takes the time to show them the way.

Being a man means having the moxie to choose your own destiny. Gus in Larry McMurtry's *Lonesome Dove* is a man because he controls his emotions and makes the decision to go up against a group of outlaws alone in order to free the damsel in distress. Then he affirms his manhood by not wallowing in his heroism or making the event about himself. In fact, Westerns have retained their popularity because cowboys are our white knights, men who stoically follow a masculine code of honor. Today, the American male has no code. We have laws, but legalism is a poor substitute for a code of honor, because legality doesn't always parallel morality.

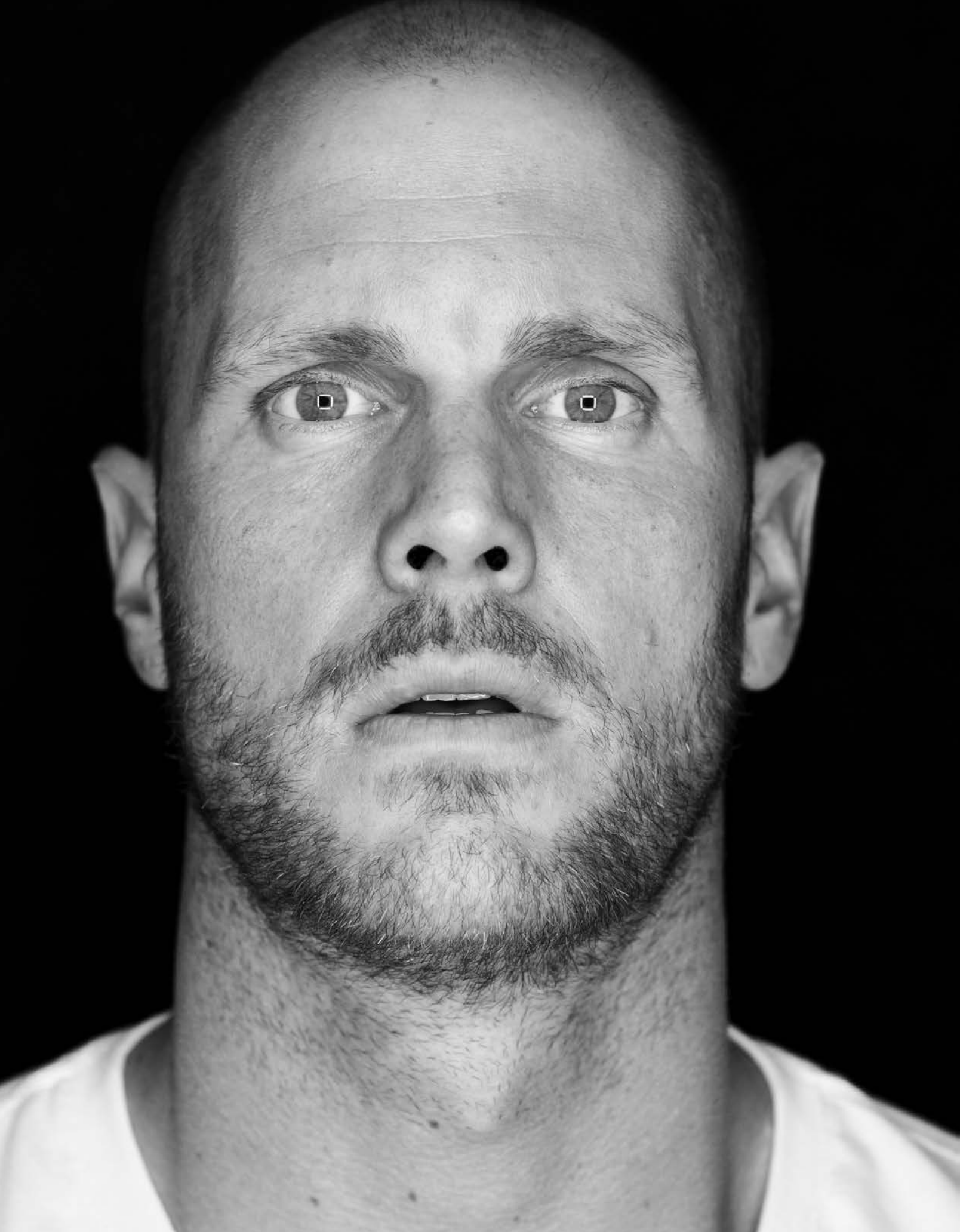
The ultimate man is, in sum, that "one thing" Curly referred to as the meaning of life in *City Slickers.* He is virtue and action forged into something we can comprehend without advanced degrees in a dozen fields. He is an evolving concept characterizing right and wrong in a heroic, comprehensible figure; he is someone to look to and question as we encounter worldly problems.

He is fundamental because, despite the dearth of clear rites of passage today, every male must learn how to be a man as best he can; after all, such knowledge isn't written in our genetic codes. Training shapes a soldier, a boxer, and a poet, not just courage, intellect, and brawn. Indeed, the American who wouldn't be a man and run with the bulls failed himself because of his ignorance, as knowledge instills confidence. Through understanding comes self-reliance. That American's fate in Pamplona could have been mine, but because I understood what was happening thanks to my guide, I steadied myself with the knowledge of what had to be done to survive.

After all, there isn't one way to be a man. Running with the bulls isn't necessary for everyone any more than being a cadet at Norwich University is, but having self-confidence is. And that assuredness comes from edification. ■

New York Times bestselling writer Frank Miniter '92 is the author of numerous books of fiction and nonfiction. This essay first appeared in *The Ultimate Man's Survival Guide: Recovering the Lost Art of Manhood.* His recent books include *Conquer Anything: A Green Beret's Guide to Building Your A-Team,* written with Greg Stube, and *The Ultimate Man's Guide to the Workplace.*

Shooting hoops in the Great Plains, photographer Rob Hammer '04 explores America. Story continues next page.



Portraits *of* America

California-based photographer Rob Hammer '04 forged a career shooting Kobe Bryant and other NBA greats. His nine-year documentary projects on barbershops and basketball hoops showcase a different side of his work

PHOTOGRAPHS BY ROB HAMMER
INTERVIEW AND TEXT BY SEAN MARKEY

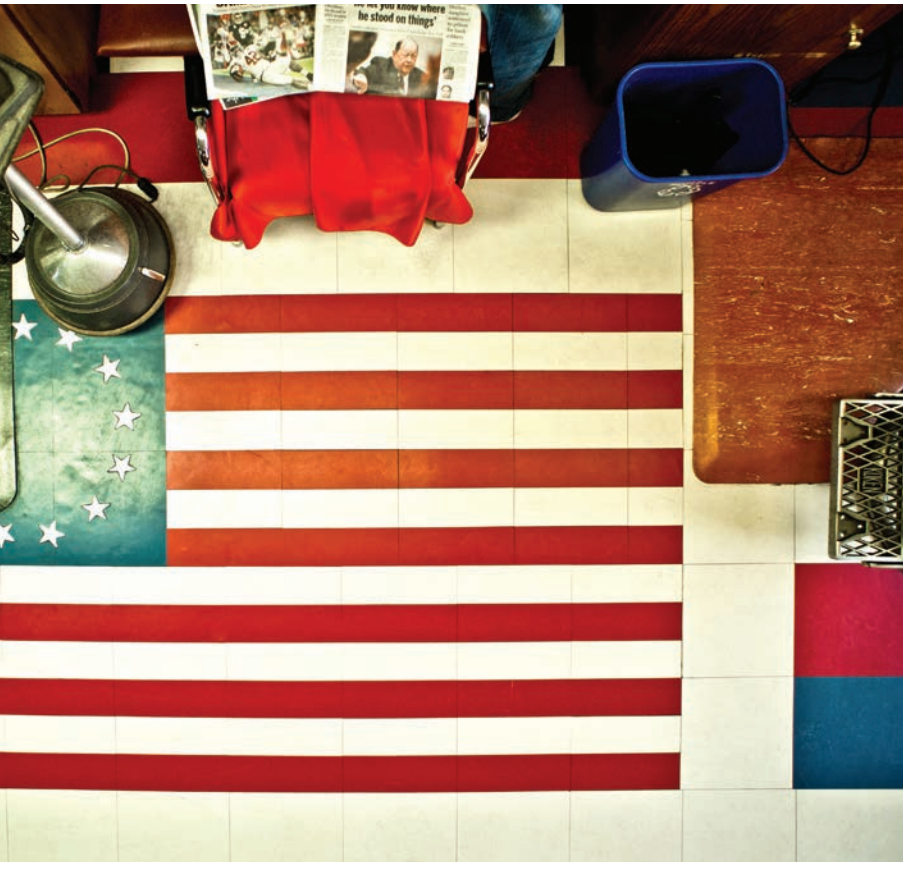
Rob Hammer '04 taught himself photography, learning the craft frame by frame. He cut his teeth shooting amateur athletes he knew or found on Craigslist—ball players, boxers, surfers, runners, weight-lifters, beach volleyball players who looked cast from the sea. Over time, he built a portfolio that led to a breakout assignment: shooting the NBA's Chris Anderson, a.k.a. "Birdman," for a hoops magazine. That assignment led to the next one and the one after that. Before long, Hammer was photographing Kobe Bryant, Shaquille O'Neal, Kevin Durant, and other NBA greats. His corporate clients included Nike, Reebok, and Adidas.

Now 41, Hammer never imagined he would have the career he enjoys today when he was a student on the Hill. He changed majors at the last minute, switching from psychology to criminal justice in order to graduate on time. Afterwards, he worked as a private investigator and in construction before bouncing around a series of meaningless jobs. But photography remained the one constant in his life. "I realized after all those stupid jobs that it was the only thing I'd be really happy doing the rest of my life," he says. "I decided to just push it."

His focus and intense effort sowed what is today a thriving commercial career. At this writing, Hammer recently wrapped shoots for TRX (athletic gear), GNC (nutrition supplements), Cremo (men's grooming supplies), and the WWE (backstage on the set for "Stone Cold" Steve Austin's TV series).

But Hammer's personal passions are revealed in his long-range independent photography projects. Over the past nine years, he has logged 200,000 miles driving across America with his Siberian husky, Mojo, photographing the country's vanishing barbershops and abandoned basketball hoops. His book, *Barbershops of America: Then and Now* (March 2020) showcases some of that work. Last fall, Hammer published his third book, *American Backcourts,* a project inspired by the backyard hoop of his childhood icon, Larry Bird. "As I began traveling on my own," Hammer writes, "the face-to-face encounters with hoops like Bird's left me curious about the stories those hoops could tell."


REWARD



American Barbershops

About the project: "My old man would take me to barber shops when I was younger, and I always saw this different side of him when we were there. This very candid, sort of funny, kind of open side of him that I never saw at home. It made me realize that barber shops were this really special place, where rules didn't really apply necessarily. It was just this safe haven. I guess that's where it started. Then as I grew older, I developed an appreciation for them. As I started traveling around, I noticed that the old-style shops were going away. Either the barbers were dying or retiring or getting kicked out of their place. That was a huge bummer for me. I see them as such a beautiful, beautiful piece of American culture that's dying, and I wanted to try to document it as best I could. Almost nine years later, I'm still going on it.

"At the three-year mark, when I published the first book, that was when things really started to explode with the hipster barbershops. I was so against it. Once I stopped being so ignorant and was more open minded and accepted it, I realized there are some really beautiful shops out there that these younger guys are opening up. You go into them and you can feel the pride. A lot of these guys, they really respect the tradition of the old shops. They're just doing it a different way with their own modern spin. That was, essentially, the goal for my last book. To show the contrast between the old shops and the new shops. The first half of the book is the old-timers, and the second half of the book is the new guys.

"What makes a good shop? They've got to have a soul. It's just a tangible thing that you can feel when you walk in. You can feel the pride of the barber, and you can feel the pride of the town, really. Because a real shop is something that's been built over time, from not just the barber but the people who come in there. You can feel that presence."

Top left: Craig Head Barbershop in Nashville, Tenn. **Top right:** Angel's Barbershop in Seligman, Ariz. **Bottom right:** Reds Barbershop in Gulfport, Miss. **Bottom left:** La Legion barbershop in Nashua, N.H.

Backcourt Hoops

About the project: "My mother is from Boston. She and her parents, my grandparents, raised me on Celtics basketball. They had a TV, but they were so old school they didn't give a [damn] about it. They just had a rabbit-ear antenna. If we wanted to watch games, you would essentially have to dance with the rabbit ears the whole time to get the game to come in. So we'd end up listening to the games on the radio. Which, looking back on it, is so rad.

"Larry Bird was my guy. He was a god. My parents got me his book *Drive.* I don't really remember what was in it. But what I do remember is this picture in the book of his childhood hoop. It was this [crappy] old barn with a decaying backboard and metal rim with no net and just a dirt driveway. That blew my mind, because I held him in such high regard, as did the rest of the world. I was like, How the hell did this guy come from that? From a story perspective, I thought that image told such a great story of where he came from and who he became that it just carried with me.

"During my travels, when I would see these hoops, it always made me wonder what happened there. What's the story here? Who played here? What were the games like? I just think that all these old hoops have such a great story."

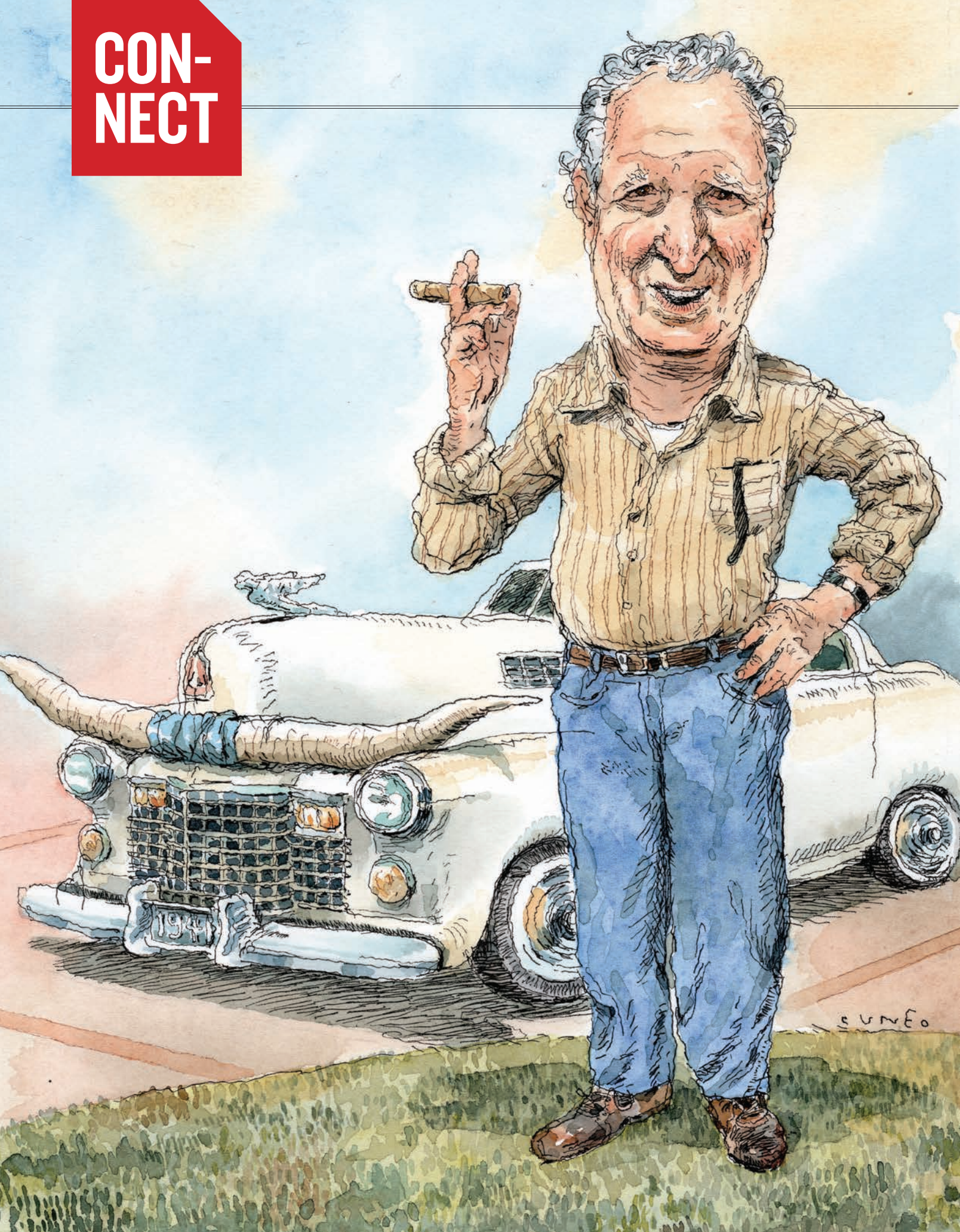
* * *

"If there's one thing I want people to understand it is you don't need anyone's permission to create. If you have an idea in your head, you don't need anyone's permission to do it. If you want to do something, do it." ■

For more on Rob Hammer's photography and books, visit www.robhammerphotography.com.

Top left: Sun sets on a rusty playground and hoop in New Mexico. **Top right:** A backyard hoop in Averill Park, N.Y. **Bottom right:** A court on a Native American reservation in Arizona. **Bottom left:** Deer antlers and skulls block shots in Idaho.

CON-NECT



PURSUITS

RACING A '41 CADILLAC FROM L.A. TO INDY

What it was like to win the $100,000 grand prize in the first Great American Race antique car rally

BY MICHAEL ANDERSON '66

One day in early January 1983, as I best recall, I was eating lunch in my car in downtown Tucson. Browsing the latest issue of *Autoweek* magazine, I saw an announcement for an upcoming cross-country race dubbed the Great American Race. It was limited to a hundred entrants driving classic cars built in or before 1941. The racecourse looped some 2,800 miles from Buena Park, Calif., in suburban Los Angeles, to Indianapolis, Ind. To enter, teams had to pay a $5,000 entrance fee. In return, they got a shot at winning the event's $100,000 grand prize.

When I read the announcement, my immediate thought was that old car guys were not typically rally racers. Conversely, rallyists were into sports cars, not old cars. My hunch was that there wouldn't be too many entrants interested in both. Since I was neither a rally guy nor an old car guy, I saw this as a great opportunity.

I was 38 years old at the time. I had a new business to run, a wife, and three small kids at home. I had no business buying a "race car." It would take time and money away from the business to prepare it. Spending five grand to enter the race and taking 10 days off from work to drive 2,800 miles across the country in search of some elusive windfall was also a risk. In retrospect, it was an endeavor best suited for some well-heeled, retired guy, not a cash-strapped, yet adventuresome, entrepreneur like me.

Nevertheless, I jumped in with both feet. I am embarrassed to say now that I sent off my application with the following note: "Here's the winning application, tell everyone else to save their money!" I was later told that staff at race HQ laughed when they read it.

Now $5,000 poorer, I began an intense five-month push to acquire and prepare a car. I also studied the ins and outs of Sports Club Car of America rally racing, determined to win the first Great American Race.

With just five months from the date the rally was announced until it began, there was little time to prepare. Everyone had the same challenges. I hustled and quickly spotted a 1941 four-door Cadillac. It was owned by my friend Richard Schwartz, who had recently restored it cosmetically. Sporting a new silver paint job, the car was big and roomy. More importantly, it was nice and fast. I offered Richard half of my winnings if he would give me the car to enter in the race. He balked in favor of a sure sale without risk. He sold it to me instead for $5,000. It was decision he would later regret.

I had a great mechanic, Jack McGrath, who prepared the car and rode

"FOR SERIOUS COMPETITORS LIKE US, IT WAS A LONG, HARD RACE."

shotgun the entire race. Jack rebuilt the Cadillac's muscular V-8 engine. He also converted the car to 12-volt and installed a 20-gallon racing fuel cell to increase driving range. Finishing touches included halogen headlights; an electric clock; and new tires, shocks, and brakes. Richard test drove the car often, ensuring that everything worked.

We followed the rules to the letter, contacting race HQ regarding all proposed changes and modifications. We also acquired spares of nearly everything we thought might break: fuel pump, cylinder heads, starter, generator, and dozens of minor parts, just in case we needed them. Some of this gear was hauled in the trunk of what we ultimately dubbed the "Cowboy Cadillac."

Our backup crew consisted of my friend Ken Nelson and my brother Roger '72. The guys would haul the luggage and spare parts, help with hotel arrangements, keep in touch with home base, and follow behind us in case we broke down. We got the glory. They got the cleanup work.

Before the race, I knew nothing about SCCA rallying or its rules. I didn't even know anyone in the sport. So I checked around for rallyists. I wanted the most experienced co-pilot I could find. Two came highly recommended to me as consistent winners: Dick Eckelbarker from Tucson and Ron Hazlett from New Mexico. I interviewed both and knew afterward that it was going to be a difficult choice. (More on this later.)

At first, all the rallyists I spoke with knew nothing about the new race. But as word of the prize money quickly spread, the good rally navigators, as they are called, surfaced. A good navigator is an absolutely critical member of a successful team. To recruit the right talent, I knew that we'd need a written contract and to split any winnings.

In the ensuing months, word of the race spread around Tucson even more. I was interviewed on local TV. I reiterated my confidence, telling my interviewer that "second best would not be good enough and that we were out to win the race." In short, I was a cocky, ambitious, brazen, overly confident competitor. I was determined to win and could not afford to lose.

Our team showed up on race day in Buena Park, just outside of Los Angeles amid much fanfare. Seeing all the competitors' cars left me fairly overwhelmed. There were beautifully restored fire trucks, exotic sports cars, grand touring cars from the late '20s and early '30s, and a concours 1908 Buick owned by tire magnate Tom Lester. Its reported value was $1M. I watched that perfect brass Buick roll out of the back of Lester's giant stainless steel, 18-wheeled tractor trailer. The car was attended to by what looked like a crew of a dozen people. The spectacle was intimidating. By comparison, we had a modest $5,000 Cadillac and the hubris to believe that we could win.

The race began in late May. It was hot traveling through the southwestern deserts via Phoenix, Tucson, and El Paso. By the end of the second day, our car was in the top three. On or near the third day, we entered the Superdome in Dallas and found ourselves in first place. It was there that I first saw the grand prize trophy. I had had less than three hours sleep since the race began, and the sight of the trophy mesmerized me. My desire to win became overpowering.

For serious competitors like us, it was a long, hard race. We usually arrived at the race leg's stopping point after dark following an intense day of concentrated driving. Exhausted, we often had to stand for an hour or more waiting to register for our hotel room. The top finishers would later gather in the hotel lobby to see the day's race re-

sults, often waiting past midnight. Although the days were exciting, they were by no means fun. The race was primarily a serious and arduous endeavor. It took all I could muster to endure it. The stress never ceased. The sleep deprivation weighed heavily.

Yet, there were fun moments too. Leaving Dallas, we missed our exit driving north and had to reverse almost a mile along the shoulder during morning rush hour traffic. That's when our car's 100-m.p.h. speed proved invaluable when we later raced over back roads to make up for our lost time.

In Oklahoma, we encountered the most intense lightning and hailstorm I have ever witnessed. Our team pushed ahead anyway, maintaining our 60-m.p.h. pace to stay ahead of the pack. The hail was so big, I was certain the windshield would breakout.

There were also festivities and cookouts in small-town checkpoints that were required stops.

By the time we rolled into Oklahoma City, our car was in first or second place. I was feeling cocky again and bought a pair of longhorns. We attached them to the front hood of our *Cowboy Cadillac,* adding some real class to the car.

The final days were intense. There was a $100,000 cash prize at stake. In 1983, that was an even more substantial sum than it is today. The Billy Joel song "Pressure" comes to mind.

Near the end, we knew we were in the lead. We could win the whole thing if we didn't mess up. When our car crossed the finish line in Indianapolis, we received a perfect score for the last leg of the race. Our total score was a mere 1:47 minutes off perfect time. The second-place car was 2:18 minutes behind. We were virtually assured of victory.

Race officials immediately impounded our car to inspect it for any illegal timing devices or electronic calculators. The process was swift, and we were quickly declared the unofficial winners. By that time, my devoted wife Susan had arrived from Tucson. Our whole crew began celebrating, squirting champagne over everyone and giving press interviews.

That night, there was a great party. The mayor of Indianapolis and Norm Miller, the president of Interstate Batteries, handed out trophies and checks. It was a wonderful relief for all. Receiving that $100,000 check was a spectacular experience, like hitting a jackpot. I felt very fortunate.

I knew that the rallies going forward would be far more competitive. Given my many responsibilities at home, I decided to keep my winnings and not risk competing again.

The day after the party, people were heading home. Our own team had a lot of people, equipment, and two vehicles to drive back to Tucson. I was standing in a parking lot, sorting out the race car, when Tom Lester, the tire magnate with the $1M Buick, spotted me. He had finished in seventh place, despite his spectacular car. Tom walked up and congratulated me on winning. He shared that he had been determined to win, but that I had outsmarted him. I asked what he meant. He said I was the only driver who thought to have two navigators in the back seat. ■

Michael Anderson '66 is a Tucson-based real estate investor who—in keeping with his high-risk, high-reward entrepreneurial spirit shown in the Great American Race—buys 50 to 100 homes each year. Illustration by John Cuneo

"NEAR THE END, WE KNEW WE WERE IN THE LEAD. WE COULD WIN THE WHOLE THING IF WE DIDN'T MESS UP."

SNOW DAY

#NORWICHALUMNI

Alumni Facebook posts on Norwich Athletics recall the glory days of the NU Skill Hill

"Absolutely great days at NU. I remember MCW, afternoon, and weekend skiing; hiking up the mountain just to sled down on a mattress cover; and even a 1-credit PE class ... *Essayons!*"

—KEVIN JOYCE '90

"Five-minute walk from the dorm. You could ski between classes if you wanted to!"

—KEVIN LEACH '71

"First time I ever skied was at the Norwich slope. Frenchy let me borrow his two wooden ski sticks and off I went. An hour later, I came back with *three* sticks: two short ones and a long one."

—CHARLIE SCHWEITZER '77

"Being young and invincible I went off the ski jump ONCE! Learned my lesson halfway down the run."

—BOB ANTHONY '70

"Used to borrow toilet paper to paste a huge 'M' on the side of the hill. Great view of it at second mess."

—JIM MCCOMISKEY '93

"Had I known NU would cancel the female ski team after our freshman year, I'm not sure I would have ever entered those gates August 1988. I struggled with staying or heading to UVM to ski. Well, I stayed, and I'm glad I did."

—MICHELLE LEBLANC '92

"Great memories from '84–88: Ski team and National Ski Patrol, Sam Robinson running the patrol and Gary Atwood running the ski operations. He let us run around with the snowmobiles. Senior year I skied 78 days. All my classes were done by noon. Great time!"

—IAN N. GREENE '88

"I took ski class for PE, and that's where this Texas girl learned how to ski!"

—VICKI COREY '88

"The ski slope was half the reason I chose to attend Norwich."

—BILL BARKER '77

"The Norwich Ski Team was NCAA Division I until the early eighties, then Division II ... It is [disappointing] that a school with such a rich history in skiing no longer fields a competitive alpine and Nordic ski team."

—HARDING BUSH, JR. '91

"That's where I learned to ski my Rook year. Hiked it a month ago. First time up top in over 30 years!"

—JAMES PATRICK GIBBONS '90

"Remember when the [gal] from Vermont College and a cadet streaked the lift line in a tuck?"

—BILL STONEBREAKER '74

Photograph courtesy NU Archives

ESSAY

ENLISTING AT 30

As a Rook, I saw my dream of military service dashed by a hip disease from childhood. But returning to NU for graduate school inspired me to try again

BY GRAIG COUTON M'18

When I was 17, I attended a two-week Future Leader Camp at Norwich. Afterward, I knew two things for certain: that Norwich was the school for me and that I wanted to serve in the military as an Air Force pilot.

I enrolled at Norwich and joined the Corps of Cadets, arriving on campus for Rook Week as a member of the Class of 2012. At Norwich, I was a member of Charlie Company and the Air Force ROTC program. As planned, I applied for an ROTC scholarship hoping to commission as an officer after graduation. I passed the Air Force Officer Qualifying Test and all physical fitness tests. Unfortunately, I was then thrown a massive curveball. I received a letter from the Department of Defense Medical Examination Review Board. The letter informed me that my Air Force ROTC scholarship application was denied due to my medical history.

When I was six years old, I was diagnosed with Legg-Calve-Perthes disease in my left hip. Perthes disease reduces blood flow to the femur, eventually causing the bone to break down. I underwent two surgeries on my hip to restore blood flow to my femur. The surgeries were successful and doctors were able to save my hip. By the time I was a teenager, my orthopedic surgeon was able to tell me that my hip was finally 100 percent healed and serving in the military would not be an issue.

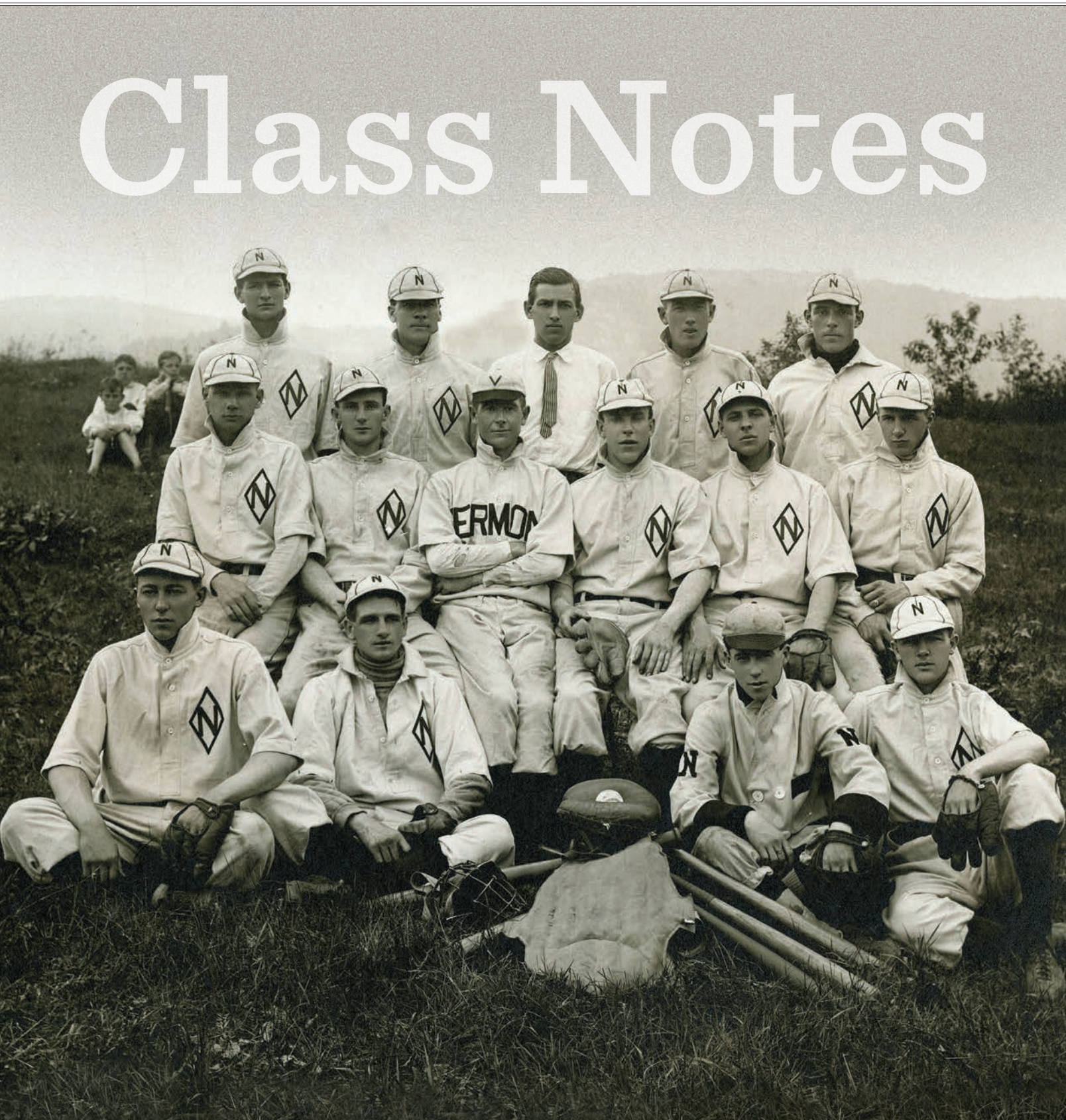
Unfortunately, the DoD Medical Examination Review Board saw things differently and denied my request for a medical waiver. Their decision left me little hope that I could enlist or apply for Officer Candidate School after graduation from Norwich. The summer following my freshman year, I made the difficult decision to leave Norwich and transfer to the University of Nevada, Las Vegas. I did earn a bachelor's degree from UNLV. But as the years went on, I regretted not staying at Norwich. I could have graduated with my Rook buddies and thought maybe I could have taken another shot at enlisting or OCS after graduation.

Four years ago, I began looking into graduate school. As I was vetting various MBA programs, I decided I would only apply to only one school—Norwich. I was accepted and graduated in the summer of 2018 with an MBA in finance. During graduation, I ran into two of my Rook buddies, Jacob Isham '12 & M'18 and Alex Redznak '12 & M'18, who were also receiving their master's degrees.

Being on campus again and seeing my old Rook buddies lit the fire in me to try one last time to see if I might be able to serve in the military in some capacity. I contacted an Army recruiter to see if I could join. Thirteen months and countless hip exams later, I was granted a waiver to join the Army Reserves. I never envisioned myself joining the Army, particularly as a 30-year-old E-4 specialist. But I could not have been happier. At this writing, I can share that I recently finished Basic Training at Fort Leonard Wood in Missouri and will be heading back for Advanced Individual Training. I know that I would not have had the desire to try and join the military again had I not returned to Norwich for graduate school.

As I reflect on my Norwich career and now look forward to my new part-time career in the Army Reserves, I no longer have any regrets about the decision I made back in the summer of 2009 to leave the Hill and possibly a military career behind. I no longer regret not finishing my undergraduate work at Norwich. Instead, I am thankful for the opportunity I had to return to our alma mater and complete graduate school. More important, I no longer wonder if I should have taken another shot at joining the military when I was a 19-year-old college student, because when I finally did take another shot, it worked. I was given a second chance at my dream. And for that, I am forever grateful. ■

Class Notes



The Cadets baseball team in 1910.
Photograph courtesy NU Archives

1. Bakari P. Dale '99 **2.** Michael Russell M'08 **3.** Wei-Neng Yang '12

CLASS OF 1966

On New Year's Eve, the World Culinary Awards named **Joe Milano**'s iconic Boston restaurant, Union Oyster House, as North America's Best Landmark Restaurant. Established in 1826, the Freedom Trail fixture is National Historic Landmark and Boston's oldest restaurant. A write-up in Boston.com noted that the restaurant beat other esteemed nominees, including Katz's Delicatessen in New York, Arnaud's in New Orleans, and Tadich Grill in San Francisco.

CLASS OF 1999

Bakari P. Dale was promoted to serve the Army as senior advisor for enterprise data science and the director of the Office of Enterprise Data Analytics in Washington, D.C. He now holds the rank of Senior Executive Level (SL) Tier, the civilian equivalent of a one-star general. *See Photo 1.*

CLASS OF 2004

After serving 10+ years as an active-duty Navy EOD tech, Lt. Cmdr. **Steven D. Johnson** is in his third year of medical school at Dartmouth's Geisel School of Medicine in Hanover, N.H. Steven also continues to serve in the Navy Reserves in the underwater robotics division of Space and Naval Warfare Systems Command.

CLASS OF 2008

Michael Russell M '08 recently received the 2020 Smart/Maher VFW National Citizenship Education Middle School Teacher Award. Michael teaches 8th grade science at Bridgewater-Raritan Middle School in Bridgewater, N.J. *See Photo 2.*

CLASS OF 2009

Master of Arts in Military History program graduate and Board of Fellows member **Alan M. Anderson**, PhD, has co-edited a new book, *The Investor-State Dispute Settlement System: Reform, Replace or Status Quo?* published by Kluwer Law International. "It features 20 chapters by 29 contributors from around the world and a foreword by the secretary-general of the International Arbitration Institute of the Stockholm Chamber of Commerce," Alan writes. Congratulations, Alan!

CLASS OF 2011

Congratulations to **Wisly Pericles**, who saw his book *Leadership and Church Organization* published by Westbow Press in December 2020.

CLASS OF 2012

Wei-Neng Yang was recently promoted to the rank of major in the Republic of China Army in Taiwan. During the ceremony, his parents pinned on the plum blossom insignia, which signifies resilience and perseverance in the face of adversity. "It's such a meaningful day in my life!" Wei-Neng wrote. "It reminds me of the Norwich graduation ceremony eight years ago, when I received my first 2LT rank. The past eight years in the Taiwan Army have been unbelievable. I'm grateful for all the good people I have come across, and I deeply believe Norwich has a lot of influence on shaping who I am today." *See Photo 3.*

Winfried Dzandu-Hedidor M'12 was promoted to brigadier general in the Ghana Army and has been appointed the commander of Army Training Command. Winfried earned his MA in diplomacy while serving at United Nations Headquarters in New York City. *See Photo 4.*

Proud mom Laura wrote to share news that her daughter **Stacey Flint** has been lighting it up on the career track. An architecture major who earned her master's degree in construction management, Stacey joined JE Dunn's Atlanta office as an intern in 2013. There, she worked on several airport projects before moving to Portland, where she joined the JE Dunn team working on a $307 million airport parking garage and car rental addition. Stacey is now the lead project manager on an adjacent new office building project. *DJC Oregon,* a business newspaper, recognized Stacey as one of its 2020 Oregon Women of Vision award winners. Among her professional

accomplishments, the paper noted, Stacey has also "put her construction experience to work building housing with Habitat for Humanity and recently helped renovate the lobby at the Center for Hope & Safety, a domestic violence support organization. She and her PDX team also spearheaded a fundraising drive for Rose Haven, a women's shelter."

CLASS OF 2013

Michael Magill has been promoted to the rank of captain and assumed command of the HQ Service Battery, 2-2 Field Artillery Regiment, 428th Field Artillery Brigade at Fort Sill, Oklahoma.

CLASS OF 2016

Evan Wise and **Brendan Moreira**, both stationed at Fort Hood, Texas, got together for a recent photo op. Naturally, they brought a Norwich flag to showcase their Hill pride! *See Photo 5.*

CLASS OF 2017

Wendy A. Gallagher M '17 is among the contributors to *Women Who Empower: 30 Stories to Empower Your Heart and Mind,* published by Kate Butler Books in December 2020. Wendy currently works as a facility coordinator for Eurest Services, one of the nation's leading facilities services company.

Earlier this year, New Hampshire Army National Guard officer 1st Lt **Andrew Torressen** and his unit served on the front line of the COVID-19 battle in Tamworth, N.H., a community he knows well. In a National Guard video posted on Facebook, Andrew said: "We're serving people we know well. People I went to high school with, teachers, my parents' friends." Andrew's parents Gary and Melissa shared the news.

CLASS OF 2018

Former Cadet's hockey goalie and class valedictorian **Braeden Ostepchuk** has launched a podcast and brand, Learn II Perform, dedicated to optimizing human performance. "Inspired by my time at Norwich, I believe this is my calling: to serve others. Learn II Perform is all about empowering people to optimize their health, happiness, and performance with the guiding values of gratitude, self-care, and service." To learn more about Braeden's journey from hockey to entrepreneurship and hear his podcasts, visit www.learniiperform.com. Braedon got an assist from classmate, Mike Dale, who designed the website. *See Photo 6.*

CLASS of 2020

Accelerated nursing program graduate **Caroline Ells** and **Lucas Smith** were married on December 28, 2020. Caroline was also recently profiled in the Winter 2021 issue of the *Norwich Record.*

Jason Boswell, who graduated last year with a Master of Arts in Military History from the College of Graduate and Continuing Studies, was recently accepted into a PhD program at King's College London.

4

4. Winfried Dzandu-Hedidor M'12

5. Evan Wise '16 and Brendan Moreira '16

6. Braeden Ostepchuk '18

5

6

Care Packages for Veterans

In December, Norwich University American Legion Post #1819 supplied 50 care packages to patients staying at the U.S. Veterans Administration Hospital in White River Junction, Vt.

The project was a joint effort between the post and Norwich University. Twenty-seven students in the Corps of Cadets supplied handwritten "Thank you for your service" cards and filled stockings.

"While we were unable to visit with patients and personally deliver the gifts and cards this year (for obvious reasons), the project was no less meaningful," writes **Landers Symes** '87, a member of the Norwich Board of Trustees, who serves as the commander of Norwich University American Legion Post 1819. "It was our goal that this small gesture of showing our appreciation to the veterans in our community, at a time in which they are again separated from family, makes their stay at the VA a little more pleasant."

Marking its fifth consecutive year, the project was spearheaded by post service officer **Toby Danforth '69** and his wife, Sunny, and executed by post sergeant-at-arms and Norwich cadet **Ray Quigley** '22 with the help of the NUCC CAV Troop Rook Platoon headed by C/SSG **Stayton Smith** '22.

ROLL OF HONOR

The following list reflects notifications of deceased Norwich family members received by the university from October 6, 2020 to January 14, 2021. Full obituaries, when available, can be viewed online at alumni.norwich.edu/obituaries. To inform the university of the passing of a member of the Norwich family, please contact the Alumni Office at (802) 485-2100 or inmemoriam@norwich.edu.

1943 **Hazel Jane Noyes,** 98, 10/9/2020, *Widow of Francis E. Noyes, '43*
1949 **Kenneth Y. Wright,** 92, 12/28/2020
1950 **Derek Brinckerhoff,** 97, 1/7/2021
1950 **Norman G. Johnson,** 92, 11/30/2020
1950 **Roger A. Krause,** 92, 10/4/2020
1950 **A. Ralph Kristeller,** 92, 11/26/2020
1950 **Rollin S. Reiter,** 92, 1/7/2021
1950 **Doris Reiter,** 90, 1/8/2021, *Wife of Rollin S. Reiter, '50*
1951 **Stephenson S. Youngerman,** 92, 12/24/2020
1952 **Don G. Hassett,** 90, 11/15/2020
1952 **Garrett V. Keefer,** 90, 1/2/2021
1953 **Frederick C. Maier,** 89, 10/12/2020
1955 **Robert A. Goodell,** 89, 11/25/2020
1956 **Elmer G. Wilcox,** 86, 12/5/2020
1957 **Frank C. Wisinski,** 87, 1/1/2021
1958 **Carlo W. D'Este,** 84, 11/22/2020
1958 **John C. Dunlop,** 84, 10/15/2020
1958 **Mary B. Elliott,** 89, 9/10/2020, *Widow of Norman T. Elliott '58*
1960 **Carol C. McDonald,** 80, 11/4/2020, *Vermont College*
1960 **Betsy Sweeney,** 80, 11/3/2020, *Vermont College*
1961 **Carl R. Bauer,** 81, 10/27/2020
1961 **James W. Quinn,** 81, 1/17/2021
1962 **Francis P. Gowash,** 80, 12/2/2020
1963 **Salvatore P. Carbonaro,** 79, 12/5/2020
1963 **Brendan O. Cleary,** 79, 12/3/2020
1963 **Elizabeth A. Guerreri,** 77, 12/24/2020, *Vermont College, wife of Carl N. Guerreri '62*
1964 **Edward S. Caswell,** 10/26/2020
1965 **John E. Henseler,** 77, 11/27/2020
1965 **John M. Poratti,** 78, 12/19/2020
1966 **Richard F. Esden,** 77, 10/4/2020
1966 **J. Barry Mulhern,** 77, 12/4/2020
1966 **Edward Stephens,** 76, 12/4/2020, *Vermont College*
1968 **Thomas C. Couture,** 73, 11/24/2020
1968 **George S. Utter,** 74, 11/15/2020
1969 **David B. Huff,** 73, 11/24/2020
1969 **Larry W. Jeffords,** 73, 1/7/2021
1970 **Judy Sarkisian,** 70, 8/24/2020, *Vermont College*
1971 **William P. Dwyer,** 71, 1/6/2021
1971 **Elizabeth Franzeim,** 69, 12/2/2020, *Vermont College*
1973 **Keith Cossey,** 74, 9/21/2020
1975 **Michael Bulawka,** 67, 10/28/2020
1978 **Cathy Collins,** 63, 10/18/2020, *Vermont College*
1980 **Patrick A. McCarthy,** 62, 11/14/2020
1980 **Linda Visbeck,** 60, 7/2/2020, *Wife of Mark W. Visbeck '80 and mother of Will S. Visbeck '07*
1982 **E. James Soper,** 60, 11/21/2020
1985 **Rhoda Russak,** 82, 11/22/2020, *CGCS*
1990 **Russell K. Freeman,** 52, 12/14/2020
1994 **John T. Young,** 66, 11/3/2020
1997 **Jane Bradley** M'97, 65, 9/20/2020
1998 **Teresa A. Hagmann** M'98, 66, 9/22/2020
1999 **Dana F. Taggart** M'99, 65, 10/14/2020
2000 **Joanne Harrington** M'00, 65, 9/29/2020
2010 **Chui Ly** M'10, 40, 9/29/2020
2016 **Richard E. Glazier,** 26, 12/1/2020
2018 **Gerald D. Evans** M'18, 50, 1/3/2021
Mark Bertrand P'18 & '20, 57, 12/11/2020, *Father of Joseph M. Bertrand '18 and Daniel Bertrand '20*
Frances Cross P'89, 96, 11/25/2020, *Former staff member*
Thomas Prendergast, 61, 11/6/2020, *CGCS, Faculty*

CLUB NEWS

TOY STORY

NU Club of NYC members gather for some holiday fun at FAO Schwarz toy store in Manhattan.

In a time when most of our NU Club events have moved to a remote format, the NU Club of NYC hosted a unique New York private-shopping event at the world-famous FAO Schwarz toy store. Club officer Diedrich Holtkamp set up exclusive access to the store for shopping, camaraderie, and, of course, the opportunity to play the giant floor piano made famous in the movie *Big.* FAO Schwarz also donated an eight-foot toy giraffe for a raffle. Michael Babyak '92 and his family were the lucky winners.

The NU Club of NYC is actively looking to grow and expand their event offerings with a theme of "Uniquely New York." If you live in the area and want to get involved contact, Diedrich at diedrichh@gmail.com.

Norwich Forever!
STEPHANIE SNELL
Assistant Director,
Alumni & Family Engagement

GET INVOLVED

Norwich has local and regional clubs across the United States and around the globe. NU Clubs are open to the entire Norwich family to connect alumni, students, families, and friends of Norwich to the university and each other. A complete directory of clubs can be found at alumni.norwich.edu/ClubListing. No clubs in your area? Consider starting one! The Alumni Office staff will be happy to get you started. Contact us at alumni@norwich.edu or by calling (802)485-2100.

CONTINUED FROM PAGE 29

grounded in a practical focus on improving the well-being of people. Striving "to link accurate and pertinent scientific research with actual human life improvements is probably what ... impress[es] me most when I look at Dr. Frisbie's work," he notes.

"I tell my students who are interested in public health that you have the potential to benefit many millions of people and that you also have the potential to harm many millions of people," Frisbie said. "The people who advocated to install these deep-water wells in Bangladesh—without testing a single drop of water for naturally occurring metals—did this with the best of intentions. However, they did not think it through, and this has caused tremendous suffering for people."

As research couples go, Frisbie and Mitchell are exceptionally well matched. Frisbie can be phenomenally detail focused. "A spreadsheet with a thousand datapoints, and he sees the one with the typo," is how Mitchell puts it. While Frisbie tackles the extremely difficulty chemistry questions, Mitchell delves deeply into literature reviews around the health aspects of their research. "She sees the big picture," Frisbie says. "It has happened over and over. I've been immersed in the minutiae and she understands the significance of what we're doing."

One of the more intriguing ideas that Mitchell has landed on recently is the effect that drinking water drawn from deep underground has on human health. Over the course of human evolution, our species has relied almost exclusively on drinking water drawn from lakes, rivers, streams, and other surface water sources. While such sources can be rife with disease caused by parasites and bacterial pathogens, they do offer an advantage when it comes to naturally occurring heavy metals. Exposed to oxygen, many of these metals become insoluble and precipitate out of the water.

But, as Mitchell points out, three technological revolutions that occurred within the span of just seven years in the mid-1800s sparked a tipping point that would irrevocably change where most of the world's population obtained their drinking water. A source we didn't evolve to consume. The first innovation came during the London cholera outbreak in 1854, when a scientist by the name of John Snow conceived the germ theory of disease, suggesting correctly that cholera was transmitted by bacteria that contaminated drinking water. The second innovation came just two years later, also in England, when inventor and engineer Henry Bessemer devised a new, inexpensive way to manufacture steel. The final innovation came during the Civil War in the United States, when Union Army officer Col. Nelson W. Green drilled deep, steel tube wells to tap water in underground aquifers to supply safe drinking water that wouldn't spread dysentery and other diseases among his soldiers.

Water sourced from deep underground is now a major source of drinking water for much of the world's population.

"For the first time in our evolutionary history, a large number of us are drinking deep well water that can't interact with the oxygen gas in the atmosphere. The deep well water often has naturally occurring metals at high concentrations," Frisbie says. "This has been an uncontrolled experiment that humans have been participating in for 150 years."

As that experiment continues, Frisbie and Mitchell will continue to answer the call to use science to help people find safe water to drink. ■

The Harmon Memorial Wall

Every year at Homecoming, the names of deceased individuals who made a significant contribution to Norwich University during their lifetimes are added to the Harmon Memorial Wall.

For more information or an application, please visit alumni.norwich.edu/HarmonWall or contact Jamie Comolli at (802) 485-2301 or jwirasni@norwich.edu

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WAYPOINTS

CLIMBING THE HILL

Heraclitus said you never step into the same river twice, because the river is never the same, nor are you

BY ANNE E. BUTTIMER

Often colleagues and students will ask me, "Where are you hiking today?" My response is always the same, the old ski area hill. "Red Trail to the fields and the top-of-quarry, then Red Trail to the summit and back." They ask if I hike it every day. My answer is yes, at least every day when I don't hike a real mountain. Then comes the inevitable follow-up question: Don't I get tired hiking the same mountain? But therein lies the secret. It is never the same hike twice.

The trails offer views of campus, of Dole Hill across the valley, and, most stunningly, views from the ski hill summit looking west across the Roxbury Mountain Range. You can spy the ski slopes of the Mad River Valley and Sugarbush. The summit still preserves the old chairlift "anchor," a large cement structure that Norwich students have long decorated with spray paint. One side remains an unofficial memorial to Navy SEAL and Special Operations Master Chief Brian R. Bill '01.

Those views and the trails that lead to them change by the day. Trees that burned with brilliant red and orange foliage on a Monday lose their leaves in an overnight rainstorm, opening more vistas on Tuesday's hike. On an early morning, I catch the first snow of the season on the summit, even as it falls as rain on campus. When I return again that afternoon, the delicate white mantle is gone; sometimes its a different hike from hour to hour.

Once winter arrives to stay, the hill's 1,700-foot summit will keep snow on its western exposure until mid-April, while trails on it's north-northwest slope cheat the spring and early summer, preserving their ice and snowpack until almost Commencement in early May.

An early morning hike after a fresh snowfall shows that humans aren't the only travelers on the hill. Deer use the trails extensively to move from their winter-shelter yards to water sources at the bottom of the hill that flow year-around under cascades of ice. Small mammals scurry across, and sometimes under, the snow. At times the trails I perceive as my sole domain reveal themselves to be the highways of many creatures who had an earlier start on the day than I. Once, I saw a fox hunting in a field of snow, appearing to launch itself straight up and then dive, nose first, through the several feet of powder. Over and over it leapt and dove, until finally, with no meal caught, it trotted off, slipping into the tree line. Another time, one afternoon in late autumn, silent, great wings swooping to a high tree limb stopped me in my tracks. I saw a great gray owl—in daytime, no less. That rare sighting, my first, reminded me again that my daily hike is never the same hike twice. ■

A lifelong criminal justice professional and educator, Anne Buttimer teaches in the Criminal Justice program at Norwich, specializing in courses on criminal procedure, criminal law, and courts.

LIVES

Carlo D'Este '58
1936–2020

BY MATTHEW CROWLEY

Norwich lost an especially bright light in November with the passing of Carlo D'Este '58.

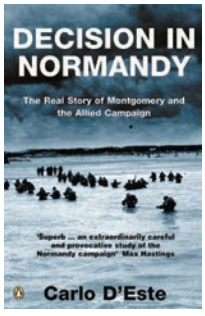
The Oakland, Calif., native, born in 1936, graduated summa cum laude from the Hill and later commissioned as a second lieutenant in the U.S. Army. During a distinguished 20-year career, he served tours of duty in Vietnam, Germany, and England, and earned the Bronze Star, Meritorious Service Medal, and Army Commendation medal. He retired his commission as a lieutenant colonel.

D'Este then began the second chapter of his career, as an equally if not more distinguished biographer and historian of World War II.

D'Este went on to write 10 books about the conflict, including biographies of U.S. Army Gens. George Patton and Dwight Eisenhower and Sir Winston Churchill, the incomparable British statesman, army officer, and prime minister. The *New York Times* described *Decision in Normandy,* D'Este's chronicle of Field Marshal Montgomery's planning and execution of the Allied campaign, as "one of the most outstanding accounts of the Normandy campaign."

The author told the *Chicago Tribune* in 2011 that he saw World War II activity from a Pacific perspective, having grown up in the San Francisco Bay Area. He said he visited many of the war's battlefields, including Normandy, during his Army days in Europe.

"Seeing the military equipment left there, and walking on Omaha Beach, gave me a sense of place and piqued my interest in finding out exactly what happened there," he told the *Tribune.*



D'Este stayed in England after he left the Army. It was there that he began research at King's College London and met military historians Nigel Hamilton, Forrest Pogue, and Martin Blumenson, whom he'd later call an important influence. D'Este told the *Tribune* the release of papers and collections from World War II leaders made the late 1970s and early 1980s a good time to research the conflict.

Of his writing career, D'Este said that good storytelling and sharp military historians were his lodestars. In 2003, on C-SPAN's *Book TV,* D'Este described how Barbara Tuchman's 1962 Pulitzer Prize–winning account of the first months of World War I, *The Guns of August,* had inspired him.

"She talked about the people, the events. It just brought the whole thing to life," D'Este said. "Later on, when I first got into this [writing] business, I thought of her, and how I wanted to write, and what I hoped to bring to my own writing was that sort of thing, to make history come alive, to make the people and the events something that people not only want to read but meaningful."

In 1997, D'Este joined author W.E.B. Griffin in co-founding the William E. Colby Military Writers' Symposium at Norwich, which was renamed the Norwich University Military Writers' Symposium in 2019.

In 2011, D'Este won the Lifetime Achievement Award in military writing from the Pritzker Military Library in Chicago. The prize, which carries a $100,000 honorarium, recognizes a living author for a body of work that has profoundly enriched the public understanding of American military history.

D'Este once told NU's Lisa Brucken that he learned discipline from his student experience at Norwich, singling out the rigorous lessons of English professor Peter Dow Webster. "He worked the heck out of us," D'Este recalled. "He taught you to think."

Those who knew D'Este said he made others think just as vigorously. "Carlo D'Este … made a tremendous collective contribution to the literary community at large," Col. (IL) Jennifer Pritzker, IL ARNG (Ret.) said in a 2011 statement announcing D'Este's Lifetime Achievement Award in military writing from the Pritzker Military Library. "He has spent as much time in the field, with his boots on the ground, as he has seeing to it that scholars of the next generation are carefully mentored while progressing along their own paths."

R. Pierce Reid M'14, chairman of the Norwich Military Writers' Symposium Associates, said D'Este's contribution to Norwich was important and lasting. "His passion for promoting world-class military history research and writing will continue to echo through Norwich, and the history community at large, for years to come." ■

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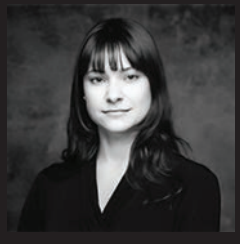

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Army Maj. Doug Meyer '09 & M'13 of Operation Warp Speed near the National Mall in Washington, D.C. See related story on p. 12. Photograph by Karen Kasmauski