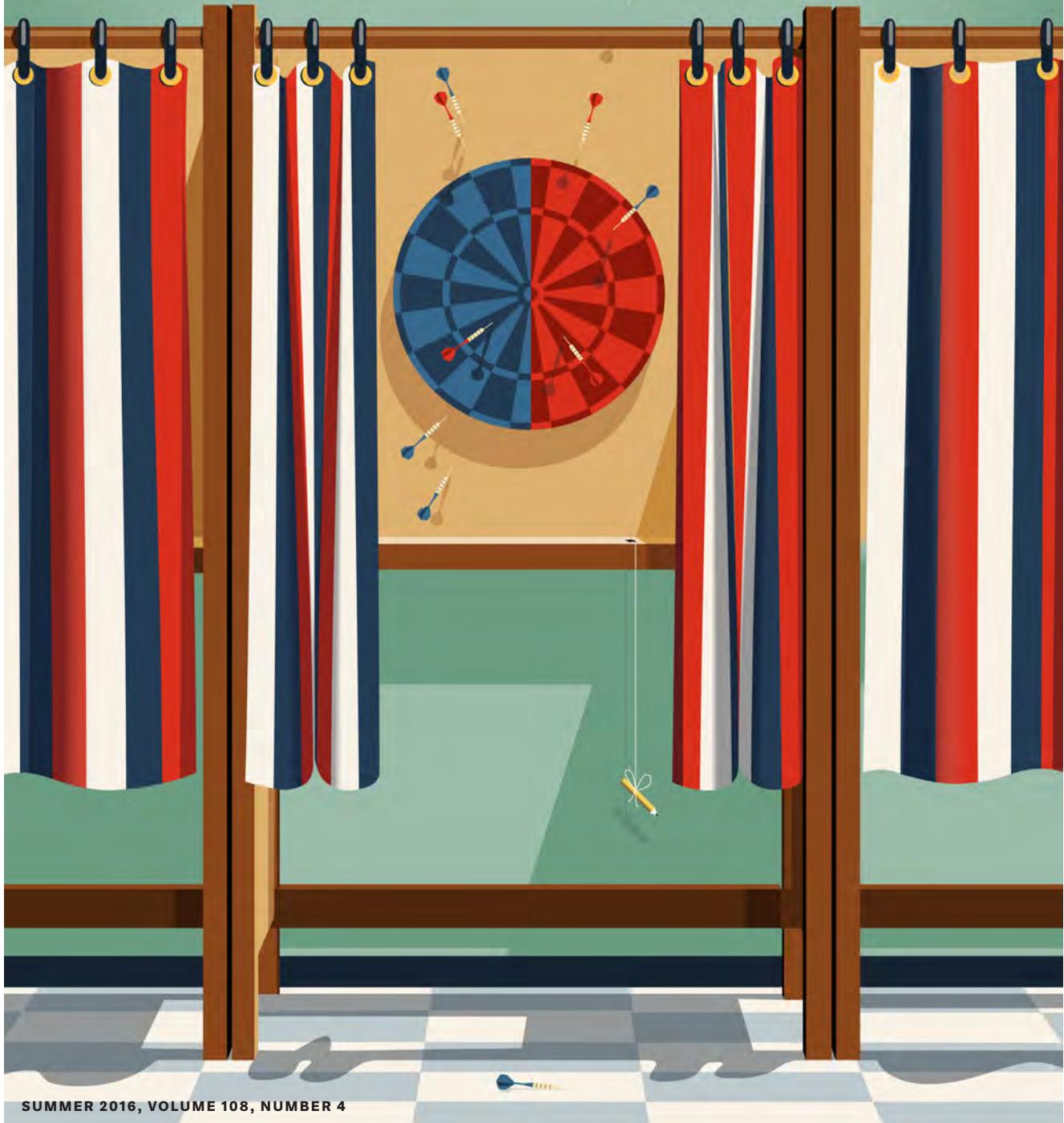


THE UNIVERSITY OF CHICAGO MAGAZINE



SUMMER 2016, VOLUME 108, NUMBER 4

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SUMMER 2016
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Many voters confidently cast a ballot in the presidential race, only to get lost in a thicket of local contests. See "Vote of Confidence," page 38. Illustration by John W. Tomac.

Features

24 HIS CURRENT QUEST

John B. Goodenough, SM'50, PhD'52, the father of the lithium-ion battery, sparked the wireless revolution. Now, at 94, he's working on the next breakthrough. *By Helen Gregg, AB'09*

32 PERIPHERAL VISION

The iconic photographs of **Danny Lyon**, AB'63, document more than 50 years of social change and life outside the mainstream. *By Carrie Golus, AB'91, AM'93*

38 VOTE OF CONFIDENCE

A start-up founded by three alumni helps voters think beyond the presidential race. *By Susie Allen, AB'09*

44 SAFE HARBOR

Poet and retired Navy physician **Frederick Foote**, AB'80, is helping wounded veterans recover. *By Laura Demanski, AM'94*

50 LEGACY

Storied publisher of the *Washington Post* Katharine Graham, AB'38, learned as she went—and made history along the way. *By Susie Allen, AB'09*

Departments

3 EDITOR'S NOTES

On cultivating our gardens. *By Laura Demanski, AM'94*

4 LETTERS

Readers debate the lessons of the Great Recession; examine the legacies of Barack Obama and Antonin Scalia; share memories of Kartemquin Films and its founders **Gordon Quinn**, AB'65, and **Gerald Temaner**, AB'57; tell us what they know ("not much"); and more.

7 ON THE AGENDA

UChicagoGRAD gives graduate students the skills they need to succeed wherever their careers take them, from the classroom to the boardroom, writes executive vice provost **Sian Beilock**.

9 UCHICAGO JOURNAL

Presidential dreams; computational biologist **John Novembre** uses statistics to uncover species' genetic stories; contemporary classical music takes center stage at the Ear Taxi Festival; attorney **Robyn McCoy**, AB'96, wants youth to know their rights; understanding suicide terrorism; how **Afua Osei**, MBA'13, MPP'13, is supporting Africa's women entrepreneurs; and more.

22 COURSE WORK

Historian **Jonathan Levy**, AM'03, PhD'08, traces the rise of the modern corporation and the company man. *By Sean Carr, AB'90*

53 PEER REVIEW

In the alumni essay, a walk through campus sparks memories of Wayne Booth, AM'47, PhD'50. Plus: Alumni News, Deaths, and Classifieds.

80 LITE OF THE MIND

The winners of our Alumni Weekend photo contest. *By Laura Demanski, AM'94*



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Tend your garden

BY LAURA DEMANSKI, AM'94



In 30 years of urban apartment and dorm living, you miss out on some of life's pleasures. Case in point: gardening. When the opportunity arose this spring to lay claim to 10 by 18 feet of my own growing space, I signed up.

In April I was thinking big. Tomatoes were a must-have. I mused on cucumbers, butterfly bushes, arugula, peonies. Visions of raspberry bushes danced in my head. Then, one weekend early in May, I actually visited my plot.

Well.

Some lilacs at the back were recognizable—they were already in fragrant bloom—but most of the other plants growing tall and thick in this not-lately-tended garden? They were all green to me. There was a lot of work to do before planting anything—an on-the-ground campaign that I wasn't sure how to begin.

So I retreated. Until Memorial Day weekend, anyway, when my parents came to town, my dad with his green thumb and gardening tools. The two of us spent Sunday morning clearing about 20 percent of the rectangle, whacking weeds and digging up roots. We installed five young tomato plants, and I made actual plans to clean up the

rest of the plot over the summer and fall, inch by inch.

When the inherited plants began to blossom, my horticultural education began. There were lilies, and phlox, and even the wished-for peonies. Every morning has been an adventure: What will burst open today? Plus the chore of clearing has turned out to be, though painstaking, also enveloping—in two ways. The garden is a world in miniature that makes the larger one slip away, and the work of tending it deposits dirt on every square inch of me. On Saturdays and Sundays I can only barely peel myself away.

Last year in Maryland, I met **Fredrick Foote**, AB'80, a retired Navy physician who is helping war wounded servicemen and servicewomen recover through nature and art (see “Safe Harbor,” page 44). We took a walk around the site he’s developed into a healing garden for veterans, the Green Road. This summer I emailed him about my new occupation, or obsession. “I’m glad you are getting some nature healing,” he wrote back.

Foote is one of many alumni in this issue who are cultivating their gardens in the Voltairean sense: helping the world inch by inch, taking close care of their corners of it. On the ground. ♦

LETTERS

Parallel lives

It was an even greater than usual pleasure to open your magazine (Spring/16) and see the first letter, from Charles Greene, SB'49, SM'50, PhD'52, and to note how much we have had in common. He was slightly ahead of me in chemist Frank Westheimer's group, and my wife and two kids made our home for two years in the veterans' housing on Woodlawn across from Rockefeller Chapel. (I had a

medical discharge from the Army infantry due to a shrapnel wound.) After running a small business in Chicago, I took a position as a research assistant under a grant from the National Institutes of Health at my other alma mater, Pomona College, developing computer-aided drug design methods for the pharmaceutical trade. This morphed into the BioByte Corp., which I now serve as president.

I am also in my early 90s, and I envy Charles's ability to still play a game of tennis doubles. A few years ago I was doing that and hyperextended my right knee and banged up a shoulder in a way that ended my tennis days. I also serve as a Eucharistic minister in our Catholic parish and have taught in adult confirmation classes (evolution is compatible with religious faith!). It appears that both Charles and I have much to be thankful for in the "formative years" spent at UChicago and for the excellent tutelage of Westheimer.

Albert Leo, SM'49, PhD'52
ONTARIO, CALIFORNIA

Diagnosing the crisis

John Paul Rollert's (AM'09) essay "Of Morals and Markets" (Spring/16) is, at once, quite interesting and very misleading. It talks engagingly about teaching values and ethics to students at a major business school since the Great Recession. But it is misleading because of the major assertion that the "ideological integrity of the [capitalist] system was called into question by the 2008 financial crisis."

Of course, many people and organizations in the private sector, motivated by profit, did some very bad things that made the financial crisis worse than it might have been. And, yes, the depth of the crisis clearly had a profound effect on many of those who lived through it.

The Great Recession, however, did not invent greed, or, arguably, even produce the worst examples of bad behavior in the history of business or financial markets. Greed is a constant factor in human existence, which is why it needs to be regulated and why it has been a ripe subject for discussion with MBA students over the decades.

Why then should Rollert assert that what transpired in the financial crisis was, somehow, a unique event that called into question the ideological integrity of the capitalist system itself? What made it that different and significant? The answers to these questions are not obvious, even if we grant that the depth of the crisis was profound. All things considered, history tells us that the system is far superior to any of its available alternatives.



As for the "subprime derivatives contracts" that Rollert discusses, it is important to note that such contracts required the existence of subprime mortgages in the first place. And the development of subprime mortgages and their obscene growth, which really accounted for the depth of the crisis, did not come out of some nefarious, capitalistic plot. It came from Washington, DC, as part of a planned public effort to foster home ownership, especially among the lower class.

From time to time prior to 2008, certain well-known members of the Wall Street community actually pleaded with people in Congress to reconsider this effort, predicting that it would ultimately lead to exactly what happened. In response they were told, in effect, "Mind your own business." And this is what they did, sometimes with more than a dollop of personal avarice included.

In the end we had the Great Recession. But whatever else happened, capitalism did not create it and the ideological integrity of the capitalist system was never in doubt, at least among those who understood what really happened.

As for the future, let us hope we live in times when governments themselves, however well motivated, do not do things that encourage the private sector to take actions that can ruin the economy. For when they do, capitalism can pay a high price, even as governments use the opportunities to overregulate and undermine market forces. But that is another subject for another time.

Richard R. West, MBA'63, PhD'64
SUN CITY WEST, ARIZONA

John Paul Rollert responds: As an ethicist, I take no position on whether, in the words of Alan Greenspan, the financial crisis in-

BLAST FROM THE PAST

Once in a while it seems as though Chicago was just something I made up in an extended daydream, over a period of years, instead of something that really happened ... this grey place full of brilliant tormented people out of Saul Bellow [EX'39] novels, Sunday NYTs, and my own imaginings. But I am convinced enough you exist to write to you. I can only disbelieve it for, say,

45 seconds at a time.

—Naomi Lindstrom, AB'71
May–June 1972

deed revealed a “flaw” in the system of capitalism, for I believe that matter is best left to those, like Richard West, who are trained in the science of economics. Similarly, I don’t challenge the technical proficiency of those students in my class whose belief in capitalism has been shaken by the crisis any more than those whose faith remains complete. Instead, I lead them through a reappreciation of the ideological underpinnings of capitalism, from Adam Smith onward, and leave it to them to decide for themselves whether an abiding faith in free markets is still warranted after the crisis and, for that matter, to what degree.

The web Kartemquin weaves

I was thrilled to see the article on Kartemquin Films and Gordon Quinn, AB’65 (“Documentary Vision,” Spring/16). I first met Gordon in 1979 when he was filming the *UE/Wells* documentary (and it was 1979, not 1975 as stated in the article). I did not realize that Gordon and Jerry Blumenthal, AB’58, AM’59, were also University of Chicago graduates until I read the article. The story of the Wells organizing drive was that I got a job there in 1977 specifically to attempt to organize the workers into a United Electrical Workers (UE) local union. While we had a number of important successes, as documented in the film, the organizing drive was ultimately a failure as a slowing economy in 1980 led to massive layoffs and a defeat for the union.

Personally, since I was laid off from Wells, I took time to visit Nicaragua for the first anniversary of the Sandinista Revolution in July 1980. I then got involved in solidarity work with Nicaragua. Finally I returned to UChicago and received my PhD in Latin American history. I am currently teaching history at Northeastern Illinois University, where I remain an active union member as part of the chapter executive board of the University Professionals of Illinois, American Federation of Teachers Local 4100. NEIU students are mainly working class and I have shown *UE/Wells* several times in my classes. To my surprise, several students have recognized relatives of theirs who had worked at Wells. It’s a small world. I occasionally still run into Gordon and will now be able to reflect on our UChicago backgrounds.

Richard Grossman, AB’74, PhD’96
CHICAGO



A still from *UE/Wells*, released in 1979, as Richard Grossman points out.

I was a graduate student in philosophy and a friend of Gerald Temaner, AB’57, the “tem” in Kartemquin. Jerry had made a recruiting film called *The College*, in which Charlie Wegener, AB’42, PhD’50, has his feet up on one of those magnificent four-part oval tables in the not-yet-renovated Cobb Hall and blows cigarette smoke up toward the sign forbidding eating and smoking as he makes his point to a humanities class.

I was at the campus showing of *Home for Life*, where I offended the resident psychiatrist by speaking of it as a metaphor for all of us. He denied that he had ever met an existentialist in a retirement home, and I quipped back that I had in mind *The Nicomachean Ethics*, I, 10. Jerry, who helped me choose an essay topic in Richard McKeon’s course on Aristotle, was more interested in art than philosophy (Philip Glass, AB’56, was a friend), although it might be more accurate to say that his idea of cinema verité was about art as a means both to express truth and make it come to be—as in Quinn’s idea that “you get people to change their thinking” by approaching them “on an emotional level.”

Quinn’s reference to the conception of the artist as journalist in *The Public and Its Problems* echoes John Dewey’s point in *Art as Experience* that truth, goodness, and beauty differ only in the place in the thinking process on which emphasis is laid. Jason Kelly’s article reflects an intellectual culture that was in no small measure due to humanities

dean Richard McKeon, a student and then colleague of Dewey’s at Columbia before Robert Maynard Hutchins brought him to Chicago to lead the development of the courses for which the College became famous.

Eventually I earned a PhD, with McKeon as dissertation director, in the Committee on the Analysis of Ideas and the Study of Methods. On the defense of my dissertation (in Goodspeed Hall, I believe), law professor Philip Kurland was the first to congratulate me after Wayne Booth, AM’47, PhD’50, informed me that I had passed. Kurland was working at a desk in a common area, with his sleeves rolled up, for senator Sam Ervin (D-NC), on the Nixon impeachment papers.

I have been teaching philosophy at York College of the City University of New York since September 1969. The first president of that new senior college was Dumont F. Kenny, PhD’53, another doctoral student of McKeon’s.

Howard Ruttenberg, AB’60, PhD’73
NEW YORK CITY

Immigration and inequality

Judging by the Magazine’s account (“Three Views on Inequality,” Winter/16), the academic heavyweights who fretted about US economic inequality last November all missed the blue whale in the room: immigration.

The rate of legal immigration to the United States is approximately one million per year, not counting guest

LETTERS

workers (or illegal aliens), and these inflows substantially degrade job opportunities and life prospects for tens of millions of American citizens.

The Center for Immigration Studies noted last year—based upon the census department's Current Population Surveys—that from 2000 to 2014, an aggregate 18 million legal immigrants and illegal aliens settled here, while the native-born population of working age increased by 16.5 million. Only 9.3 million jobs were added during the same period.

Surely being frozen out of jobs or having one's wages stagnate because of competition from imported cheap labor has a strong bearing on inequality. Harvard labor economist George Borjas has long backed up the point with his work on the "immigration surplus," which is the economic benefit to us native borns from the presence of the foreign-born population.

In 2013 Borjas wrote, "The immigration surplus of \$35 billion comes from reducing the wages of natives in competition with immigrants by an estimated \$402 billion a year, while increasing profits or the incomes of users of immigrants by an estimated \$437 billion." So immigration pumps up the incomes of the relatively few (capital) at the expense of the many (labor). Those concerned about inequality might consider this while recognizing that immigration is public policy, not a force of nature.

Paul Nachman, PhD'78
BOZEMAN, MONTANA

Knowledge deficit

Re: Carrie Golus's (AB'91, AM'93) article ("What Do You Know?" Course Work, Spring/16). There can be but one response to the heading, and it is: "Not much—you?"

Vern Krider, MBA'62
PALM COAST, FLORIDA

Presidential praise

During President Barack Obama's recent return to his home state of Illinois to speak to students and faculty at the University of Chicago Law School, I would hope the citizens of Illinois took the time to reflect on his presidency, his accomplishments, and the

qualities that he brings to the office. In Barack Obama we find the best of what this country has to offer. He has displayed traits that most Americans have always admired in their fellow citizens: he is intelligent, articulate, poised, compassionate, thoughtful, levelheaded, and a loving family man. He is not prone to make rash decisions, nor to shoot from the hip.

I think President Obama will in time be revered for not only being our first black president but a president who possessed great skill and competence. Some highlights will include shepherding the country through financial meltdown, providing insurance to millions of uninsured, forging alliances to handle conflicts in the world, and breaking the impasse with Cuba. One shortcoming will be the failure to bring the federal government to bear on the gangs that are making Chicago the murder capital of the country.

There are those who oppose his policies based on the fact that he is a liberal and belongs to the opposing party. This is understandable. Then there are others who oppose anything he stands for because of deep-seated feelings about his race and background. They are blind to the traits mentioned above.

Ned McCray, AM'61
TINLEY PARK, ILLINOIS

Another view on a journey

The facile manner in which Ronald L. Hammerle, ThM'68, DMN'69 (Letters, Spring/16), speaks of elective abortion reminds one of Machiavelli's doublespeak in praising the virtue of Agathocles (*Prince*, chapter 8).

Lynn Varco, AB'95
ST. PAUL, MINNESOTA

Remembering a justice

In the obituary of former UChicago law professor and Supreme Court associate justice Antonin Scalia (Deaths, Spring/16), the *Magazine* published the statement, "A staunch advocate of interpreting the Constitution as the founding fathers would have, Scalia helped ..." Justice Scalia may have been a brilliant jurist with a keen analytical mind; however, he was not present at the founding of the country nor interacted directly with the founding fathers. A more accurate and truthful statement would be: "A staunch advocate of interpreting the Constitution as

he believed the founding fathers would have, Scalia helped ..."

Gregory J. Watson, AB'92
ARLINGTON, VIRGINIA

Remembering a friend

I was saddened to read of Samuel Golden's (AB'45, JD'49) passing (Deaths, Spring/16). In the 1969–70 school year, I was business manager of the *Chicago Maroon*, which had a contract with an agency that solicited advertising from large Chicago businesses for area university newspapers. That year they proposed a new contract with a bigger take for them and incredibly onerous terms. Since the ads did not bring major dollars to the *Maroon*, I was prepared to tell them to go several blocks east and enjoy Lake Michigan, but the business manager of the *Daily Northwestern* was quite upset, since his paper was more dependent on the income. The new contract would cause serious losses at the other papers too.

Dean of students Chuck O'Connell, AM'47, had referred me to Sam Golden, who read the contract, shaking his head and laughing out loud occasionally. Sam said he would be delighted to draft a much more favorable contract, at no cost to the *Maroon*. I shared it with the other business managers. As a result, we all enjoyed better revenue and more acceptable terms from the agency.

Before and since, I have worked with lawyers from sole practitioners to those at multicity international firms to municipal bond counsels in several states. Unlike too many in the legal profession, Sam was a true delight to work with, quickly grasped my objectives, and implemented them very efficiently. Most important, his work was not challenged nor changed.

Emmet Gonder III, MBA'71
GALESBURG, ILLINOIS

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Introducing UChicagoGRAD

BY SIAN BEILOCK, EXECUTIVE VICE PROVOST AND STELLA M. ROWLEY PROFESSOR IN THE DEPARTMENT OF PSYCHOLOGY, COMMITTEE ON EDUCATION, AND THE COLLEGE

Scroll through the daily headlines of most news sites these days, and you are almost sure to find a story on higher education—mostly the undergraduate four-year degree. But what about graduate education? At the University of Chicago, we have a long history of graduate education, reaching back to the earliest days when President William Rainey Harper placed an emphasis on creating excellent graduate schools. Today we have a renewed focus on ensuring that our graduate students and postdoctoral researchers receive a world-class education and also acquire the necessary skills—from writing and communication to advanced pedagogy—to be leaders in academia, industry, nonprofits, and government.

Two years ago I became vice provost for academic initiatives and was charged with thinking about how best to support graduate students and postdocs. As a first step, I went to talk to the 12 deans of our divisions and schools to learn which components of graduate education might benefit from economy of scale and cross-disciplinary opportunities. What specific skills would both a graduate student in astrophysics and one in classics find useful? From these conversations, UChicagoGRAD was born, officially opening its doors on May 20, 2015.

Here is the idea: Graduate students and postdocs receive outstanding training from faculty in their disciplines. UChicagoGRAD, a University-wide office and initiative, complements that training by helping students and postdocs develop and demonstrate a varied skill set and connecting them with job



Sian Beilock joined the University of Chicago in 2005.

opportunities. We eschew the false dichotomy that students need one set of skills for the academy and another set of skills for industry, nonprofits, or government. Being an effective writer, communicator, researcher, critical thinker, and teacher, along with the ability to work productively in a team setting, is important whether someone ends up in the classroom or the boardroom.

Everyone is welcome at UChicagoGRAD programs, events, and workshops. One program, GRAD-Talk, unprecedented among our peers, provides ongoing workshops and one-on-one advising on presentation skills, interviewing (in person as well as on the phone and Skype), and even speaking up in class. Through the Chicago Center for Teaching, UChicagoGRAD prepares students and postdocs for academic positions at large public and private research universities, small liberal arts colleges, and every type of institution in between. As students are honing pedagogical skills for the academic job market, they can learn to articulate how those same skills will help them in

industry, nonprofit, and government jobs by participating in a consulting boot camp or a workshop with alumni panels from across disciplines.

At our inaugural GRADFair last November, more than 125 employers and alumni met with and interviewed 500 students and postdocs. The logic is that students and postdocs can benefit tremendously from exposure to alumni and potential employers in other fields. A student from the School of Social Service Administration, for example, should have access to Biological Sciences Division alumni working in health care, as these alumni may know of job opportunities that would be a great fit. A recent UChicagoGRAD Power Lunch event with **Steve Strongin**, AB'79, AM'82 (economics), drew students in fields from anthropology to physics. Strongin, the head of the global investment research division at Goldman Sachs, talked about how many companies are eager to hire people whose primary focus is not necessarily economics, but who have developed research chops and critical thinking skills in a variety of areas.

A graduate degree and the creativity, logic, and persistence that go into obtaining one train people to be powerful members of society and the workforce, including—but not limited to—the academy. PhDs in disciplines from history to philosophy provide excellent preparation for jobs in media, publishing, and other industries. And a graduate degree in the sciences is now more relevant than ever to employers who require advanced facility with research. UChicagoGRAD makes sure students and postdocs have access to the skills and resources they need and, importantly, are able to advocate for their skills as deeply relevant to the careers they choose.

We are a leader among our peers in thinking about the wide variety of opportunities opened up by graduate education, and our students and postdocs are flocking to our programs. In our inaugural year, we had more than 7,400 participations in UChicagoGRAD advising sessions, events, and programs. Working hand in hand with the divisions and schools, we ensure that students and postdocs are prepared with flexible training to leave our University with the skills they need to become leaders in their chosen fields. ♦



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For the Ear Taxi Festival, October 5–10, 53 composers are at work on world premieres.

MUSIC

New classics

The Ear Taxi Festival will highlight contemporary classical music in Chicago.

Augusta Read Thomas's right hand slides from an A to a B to an E-flat on her glossy black Steinway B. The

sketch she's playing from is exactly that—a bunch of open circles kissed by erratic scribbled lines on the make-shift score she's written. It could be a minute's worth of music, or it could be a rough map of the solar system, if you close one eye.

The music, whipped up this morning, is in its earliest and roughest form, still just a newborn in its life as a composition. Meanwhile, another of Thomas's creations, dreamed up three years ago, is about to come to fruition.

The Ear Taxi Festival, taking place October 5–10 at six venues across the city, will celebrate Chicago's vast

and vibrant contemporary classical music scene. Led by Thomas and co-curated by renowned trumpeter Stephen Burns, the festival will feature the work of some 300 musicians along with lectures, installations, and artist meet and greets.

"I'm going to take your ears on 95 cab rides," says Thomas, University Professor of Composition at UChicago and one of today's most distinguished composers. According to the American Society of Composers, Authors, and Publishers, a performing rights group, her musical works were performed more frequently

in 2013–14 than those of any other living American.

Fifty-three composers all over the city are at work writing world premiere compositions for the festival. There will be more than three times the number of fresh commissions at last summer's weeklong Tanglewood festival, another major showcase of contemporary music, put on by the Tanglewood Music Center in Massachusetts. Everyone involved in Ear Taxi has Chicago ties, from the composers and performers to the audio engineers, Thomas says. But that's about it, as far as similarities go.

"If you just come to one evening, you're going to get such an abundance of different voices, different people, different colors," she says. Some of the composers will be influenced by jazz, others by European music, and others still, including Chris Fisher-Lochhead, by popular music. His piece "stutter-step the concept" is inspired by the sampling techniques and full-body engagement of early '90s hip-hop.

There really is something for everyone, and Thomas urges festivalgoers to come with open minds and ears. "Some of the pieces are going to be, metaphorically speaking, purple. And the next piece after it is going to be yellow, and the piece after that is going to be green, and the piece after that is going to be polka-dotted."

The variety of the Ear Taxi Festival is representative of a paradigm shift taking place right now in American music, says Michael Lewanski. He's a member of Ear Taxi's curatorial board and a self-proclaimed "artistic cheerleader" for the festival. He thinks today's generation of musicians in Chicago wants to write, play, and support art that reflects the world they live in.

Lewanski says he loves Beethoven, but "Beethoven was writing for a different time and place." Lewanski, assistant professor of instrumental ensembles at DePaul University, will premiere three new works at Ear Taxi as conductor for the 22-member collective Ensemble Dal Niente. "To me the thing about contemporary life is that it's vast and diverse and con-

fusing. The Ear Taxi Festival is all of that. Not everyone is going to like everything. That's fine, because that's how the world is."

For Thomas, the festival is one of many ways she gives back to the art form she loves. She's been on the board of directors of the American Music Center since 2000 and served as its

chair from 2005 to 2008. She has taught at the Eastman School of Music, Northwestern University, and the Tanglewood Music

Center and was the 16th person ever to be appointed University Professor at UChicago. "And 10 other things," she says with a sweep of her hand. (By "other things," she might mean creating the burgeoning MusicNOW concert series in 1998 during her residency with the Chicago Symphony Orchestra or helping 10 high-school-aged composers premiere their works with the New Haven Symphony in 2011.)

"I love music of this type. And I like the people who make this music. And this music needs advocates and visionaries and leaders who are willing to work," she says.

The vision isn't over with Ear Taxi. Thomas is currently working to establish a center for contemporary composition on UChicago's campus with its own residency, fellowship, and performance programming. It's both ambitious and, she thinks, a natural progression for a university and city with such rich musical traditions and influence. Thomas hopes the center will be a place where today's Debussys come to visit, and where tomorrow's Stravinskys can be trained and nurtured.

But first, many of these future stars will be at Ear Taxi this fall. In fact, Thomas estimates that about 60 percent of the festival's composers are emerging artists. For many, it's their first big chance to be heard. It's an opportunity to have their faces and their stories printed in a 150-page program alongside the musicians who inspired them, or who will inspire them in the future.

"Hopefully I'm helping others to bring the whole culture higher," Thomas says.—*Tessa D'Agosta*

GENETICS

Map of life

Computational biologist John Novembre uses statistics to understand human genetic history.

The Kennewick Man, a 9,000-year-old Paleo-American skeleton discovered on a bank of the Columbia River in 1996, is one of the earliest and most complete sets of human remains ever found in North America. It has also been the subject of considerable controversy—several Native American tribes have claimed the Kennewick Man as one of their own and have fought to repatriate the skeleton for reburial.

This year a UChicago team led by geneticists **John Novembre** and **Anna Di Rienzo** used four distinct genetic analyses to verify an independent study that had found significant similarities between DNA in the skeleton and DNA from local tribe members. The Kennewick Man is "genetically closer to modern Native Americans than to any other population worldwide," Novembre and the team concluded. The study was used as evidence in a government decision to designate the Kennewick remains as Native American, and the remains are expected to be returned to the tribes in the coming months.

Vast improvements over the past few decades in technology for collecting and analyzing DNA made the Kennewick identification possible. Capitalizing on those as well as leaps in computing power, Novembre, associate professor of genetics, is developing novel statistical tools to discover not just the genetic origins of an individual but the histories of species. His work, recognized with a MacArthur Fellowship in 2015, is sharpening, and in some cases revising, our understanding of evolutionary history, human populations and migration, and heritable diseases.

The first research lab where Novembre worked as a Colorado College biochemistry major studied protein folding, a key step in the process by which amino acids translated from messenger RNA become functional proteins. From that close-up biophysical



Novembre won a 2015 MacArthur Fellowship for his work at the intersection of statistics, computation, and genetics.

examination of how amino acid mutations change the structure of the resulting proteins, “I naturally wanted to zoom out and look at bigger time scales” and how such mutations affect populations over long time frames. He now seeks evidence of whole species’ stories, stretching over centuries and millennia, especially that of *Homo sapiens*.

One strand of Novembre’s research develops ways to visualize genetic data and thereby discover structures underlying human populations, and clues about their growth and movement around the earth. “While humans are all very genetically similar,” he says, “there’s always been some structure to the mating patterns, and using genetics we can gain insight into those patterns.”

For example, in a 2008 study of the DNA sequences, or genotypes, of 1,387 Europeans, Novembre’s team took about half a million common gene variants from each subject’s genome and applied principal component analysis to them.

The statistical technique teases out patterns in “high-dimensional” data sets like this, which contain mind-boggling numbers of variables, by lumping together information that is highly correlated and singling out the combinations of variables that are meaningful or important.

When Novembre and his collaborators performed this analysis on their European genetic data, a plot that

emerged using the principal components looked astonishingly familiar: the data traced out a rough but recognizable map of the continent. In one corner, for instance, individuals from Portugal and Spain clustered together, neighboring those from France. Throughout the map, expectations from basic geography hold true.

The striking correlation between genetics and geography “was completely surprising when it first came out,” Novembre says, since “this analysis had no geography fed into it.” Besides, he stresses, genetically speaking, all humans are very closely related to each other compared to other species.

On average, two Europeans’ DNA sequences vary by about one in every 1,000 base pairs, and the base pair that varies does so by only about a few percentage points. So “we’re squeezing extremely weak signals out of the data.” (Some of our most visible traits, such as eye color and skin and hair pigmentation, are “the outliers where natural selection has sped up the process of differentiation,” he says.)

Despite the relative homogeneity of human genomes, the researchers were able to determine 90 percent of the subjects’ birthplaces to within 450 miles just from their genetic data, showing that geography plays a key role in the structure of the European population. The study’s results carry implications for other branches of population genet-

WILLIAM RAINEY HARPER’S INDEX IN BLOOM

Years the UChicago campus has been designated a botanic garden by the American Public Gardens Association:

19

Percent of the 217-acre campus set aside as green space:

60

Perennial plants in the main quadrangle circle garden:

1,480

Bulbs in the main quadrangle circle garden:

9,800

Tree species on campus:

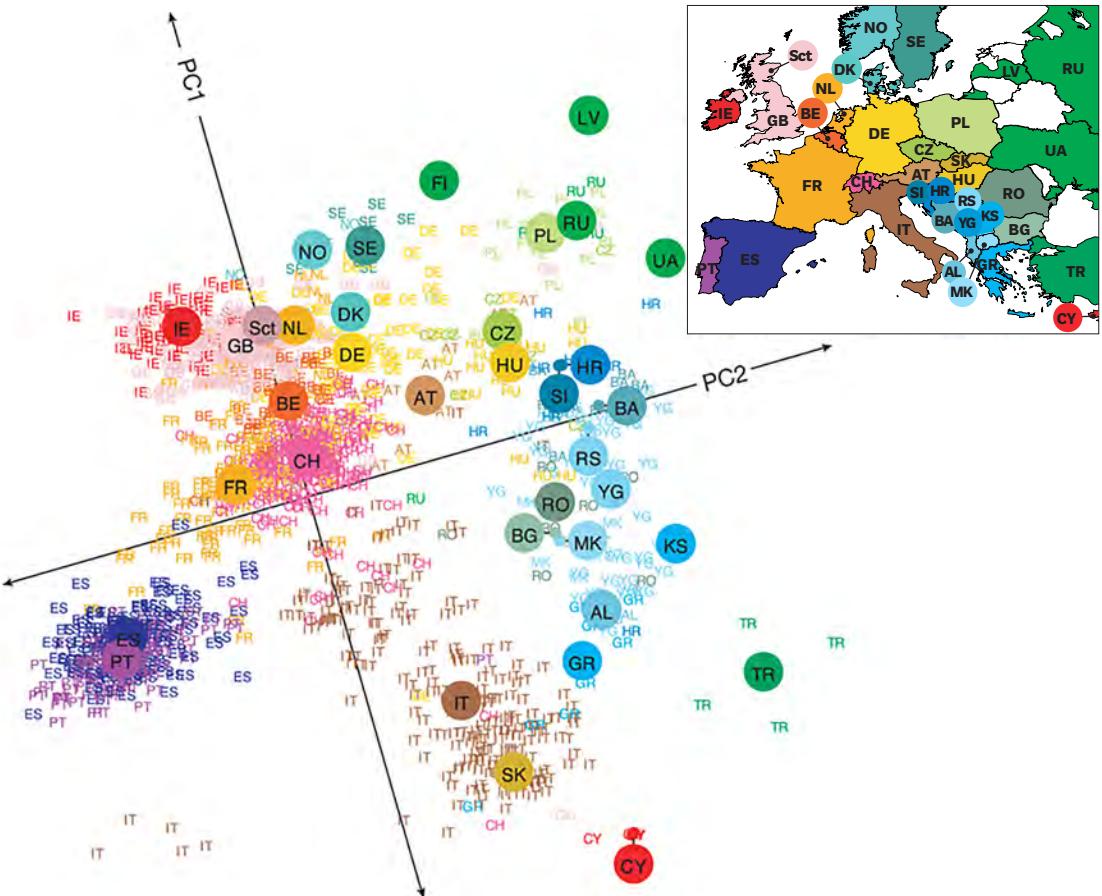
113

Number of trees, as of 2015:

4,511

Community vegetable gardens on campus:

2



Novembre's principal component analysis of genetic data from 1,387 Europeans revealed a rough map of the continent. (Small labels represent individuals; large dots indicate median values for each country.)

pigmentation, are “the outliers where natural selection has sped up the process of differentiation,” he says.)

Despite the relative homogeneity of human genomes, the researchers were able to determine 90 percent of the subjects’ birthplaces to within 450 miles just from their genetic data, showing that geography plays a key role in the structure of the European population. The study’s results carry implications for other branches of population genetics too. In efforts to identify genes that contribute to inherited diseases, for instance, they underline the need to take into account a sample’s geographic distribution, to not mistake one DNA pattern for another.

Novembre’s lab is also helping to answer fundamental questions about recombination, the process by which genes from two parents blend together into their offspring’s chromosomes.

That blending is uneven, and the logic governing it has been poorly understood. In a 2011 paper, Novembre and several collaborators looked at African American genotype data to identify and count “recombination events”: the precise points along a chromosome where the genes switch from one parent’s to the other’s and back again. Since many African Americans have both West African and European ancestry, Novembre and his team could use the switch points in ancestry on their chromosomes as a clue to where recombinations had occurred.

Besides contributing to our larger understanding of how recombination works, this research has yielded a detailed genetic map that helps researchers learn the origins of inherited diseases in African Americans and identify the genes that play a role.

Novembre believes his MacArthur

Fellowship is a testament to the promise of the intersection of statistics, computation, and genetics where his work lies. The fellowship comes with no restrictions, just the foundation’s hope that the \$625,000 stipend, disbursed over five years, will be used to further recipients’ creative vision.

Talking to previous fellows about how they used their stipends, Novembre has heard a wide range of advice—including to save it for childcare. “That’s best for your creativity,” some fellows told him. But he plans to fund higher-risk pilot projects that might not attract a conventional grant. For instance, he would like to try to isolate prehistoric human DNA from Neolithic archaeological sites, shedding new light on our deeper genetic past and how we became the humans we are today.

—Benjamin Recchie, AB’03

After the attacks

Many 9/11 first responders still face serious health problems. Jacqueline Moline, AB'84, MD'88, has been helping them since 2001.

The official 9/11 disaster area radiates from the World Trade Center site to the western edges of Brooklyn, covering lower Manhattan and just brushing the tip of Governors Island.

Jacqueline Moline, AB'84, MD'88, was inside that ring, on Delancey Street, when she heard the first plane strike. “You could hear it, the impact,” she remembers. “Someone screamed, ‘We’re under attack.’”

She has spent the nearly 15 years since caring for the first responders who rushed in to help.

The new One World Trade Center is visible across the East River from the ninth-floor clinic Moline directs. The Queens World Trade Center Health Program monitors and treats a cohort of 3,000 police officers, construction workers, and other responders. (Firefighters have their own program, as do area residents.) Many are still affected by the million tons of toxic alkaline dust released in the Twin Towers’ collapse and by mental health issues.

Moline, the founding chair and professor of occupational medicine, epidemiology, and prevention at Hofstra Northwell School of Medicine, was a leader in organizing a long-term medical response plan to that unique occupational hazard, and she’s fought hard to secure and retain federal funding for her work. “They were exposed to a complex and unprecedented mixture of toxic chemicals, including dust, glass shards, and carcinogens like benzene, asbestos, and dioxin,” Moline told a congressional subcommittee in 2009, testifying on behalf of the James Zadroga 9/11 Health and Compensation Act, which provides funding to her clinic today.

After 9/11, first responders and others who worked at the disaster site almost all developed a severe, hacking,

persistent cough. Today some have lung and sinus problems, sleep apnea, gastroesophageal reflux disease, and more complex conditions. “We’re not quite sure why … some people had a more robust reaction,” she says.

The mental toll included post-traumatic stress, anxiety, depression, and substance abuse. The new worry is cancer—responders have elevated rates of certain types, such as multiple myeloma. Still, most continue to work. “They’re getting by,” Moline says.

Moline has been concerned about the health of 9/11 first responders since the day of the attacks. That morning she headed to a nearby hospital, but they didn’t need extra help. There wasn’t much to be done when she was paged into her office at Mt. Sinai Hospital. But Moline and her occupational medicine colleagues were well aware of the dangers facing the responders at the World Trade Center.

In the 1993 truck bombing that the towers withstood, the local government asked the team, already experienced in asbestos exams, to give rescue and recovery workers respiratory clearance examinations. The evaluations are used to determine whether a worker is medically able to wear a respirator to prevent dust and smoke inhalation.

Moline had volunteers ready to perform the examinations in 2001, but the offer wasn’t taken up amid the overwhelming chaos. The lack of coordinated medical oversight was a tragic missed opportunity. The dust surrounding the rescue and recovery workers was as alkaline as bleach, yet after the first couple of days there were “truckloads of respirators that people weren’t using effectively.” Doctors could have shown workers how to use them correctly and ensured the masks fit. Moline thinks having experts on site “would have given more of a sense that you need to protect yourselves.”

On September 13, Moline and the Mt. Sinai occupational medicine team met at the home of their colleague Jaime Szeinuk to brainstorm what downstream effects responders might experience. “We felt we really, really have to think what’s going to happen down the road,” says Szeinuk, who works in Moline’s clinic today.

Backed by politicians, especially then-senator Hillary Clinton (“The program would not exist without



Recently Moline has been studying volunteer firefighters’ cancer risks.

her,” Moline says), their ideas turned into a treatment and monitoring program that laid the groundwork for today’s Centers for Disease Control and Prevention World Trade Center Health Program.

Now there are seven clinics in the New York City area where responders can go for checkups or federally funded medical treatment. A raft of research by Moline and others has since explored the effects of WTC exposure based on clinical findings and the health surveys responders periodically fill out.

The clinics are supported by the Zadroga Act, which passed in 2010 and was signed into law the next January. It dedicated billions to monitoring and treating both first responders and those exposed to the dust. Named for a policeman who worked at Ground Zero and later died of respiratory disease, the bill stalled in Congress until former *Daily Show* host Jon Stewart took up the cause.

Last year the Zadroga Act was extended to 2090, ensuring that Moline’s program will be there for the long haul. It’s a huge relief after a 15-year fight to protect health care for first responders: “Now that I don’t have to do that anymore, it’s kind of—oh my goodness, we have 75 years of funding!”

—Asher Klein, AB'11



McCoy started working at her dad's law firm at 14. Now she's a partner.

LAW AND SOCIETY

Legal advice

Attorney Robyn McCoy, AB'96, teaches what to do during a police stop.

The Trayvon Martin case was the catalyst. "I was so anguished about it," says **Robyn McCoy**, AB'96. "I'm always lecturing my clients, telling them, look ... if you just follow the right path, then everything's going to be OK. He wasn't doing anything wrong, and he still was killed."

First McCoy felt sad, then angry. Finally she decided, "I can't just have a pity party about this," she says. "What am I going to do?"

McCoy has worked as a criminal defense attorney in Michigan for 15 years. Since 2014 she has collaborated with Judge Deborah Thomas of the Third Circuit Court on public presentations about expungement. Thomas explains, from a judge's perspective, how to clear a criminal record; McCoy goes over the actual application. It's valuable work—and McCoy still does it—but even better, she says, would be teaching people "how to avoid catching a case" in the first place.

Like many defense attorneys, McCoy was weary of trying to help clients who had consented to a search or

given a confession. "Don't give a statement," she says. "A lot of times I have clients who ... get tricked into making a statement. They get manipulated, and then that helps to seal their fate." There is only so much she can do, she says, when her clients have given away their rights.

In February 2015, she organized her first workshop, "What to Do When Stopped by the Police," at New Hope Baptist Church in Ann Arbor. Speakers included the Washtenaw County sheriff, the Ann Arbor police chief, the Washtenaw County prosecutor, a public defender, a criminal defense attorney, and an American Civil Liberties Union attorney. "I felt like all of the players in the process needed to be there," McCoy says. Despite frigid temperatures, 100 people showed up.

Over the past year, McCoy has organized similar presentations at high schools and elsewhere: five in Detroit, three in Washtenaw County (which includes Ann Arbor and Ypsilanti). Some of the workshops, like the one at Detroit's Henry Ford High School, are archived on YouTube.

Almost every speaker at Henry Ford gives a version of the same basic advice: Be polite. Be respectful. Think before you act. Many of them do so by telling about their own experiences with police while off duty or when they were teens. One police detective uses a slideshow, and a gen-

erous serving of edgy humor, to explain to students what to do if they're stopped while driving—and what not to do. "Don't bribe us with money or doughnuts," he says, drawing laughs.

Also covered: knowing what your rights are, and your resources if those rights are violated. "Who polices the police?" the US attorney for Michigan's Eastern District asked the Hen-

ry Ford students.

"I do. ... When you believe that a police officer has violated your civil rights, I want to know about

it." She goes on to explain the criminal and civil statutes her office enforces. The next speaker, Judge Thomas, gives the students pocket-sized cards outlining their rights as citizens.

McCoy's cast of presenters continues to evolve, based on what audiences tell her. "Look, Ms. McCoy, it's good that you're educating us," she's heard students say. "It's good that you're letting us know what to do, but what are the police doing?" So she began including more information on police accountability.

McCoy is a partner with McCoy & Associates, founded by her father, Robert McCoy; she first worked there at 14, filing documents and answering phones. (Her father, who grew up in a family of 16 in Benton Harbor, Michigan, was inspired to become a lawyer by watching *Perry Mason*.) Robyn McCoy considered becoming a nurse like her mother "for five minutes," she



Speakers at the workshops have included law enforcement officers, prosecutors, criminal defense attorneys, and attorneys from the ACLU.

PHOTOGRAPHY BY MICHIGAN MEDIA (TOP); VIDEO STILL COURTESY MICHIGAN CHILDREN'S LAW CENTER

says. Then “I went to the hospital with her and walked past the morgue.”

At UChicago she majored in anthropology and cofounded Sistafriends, a networking group for African American women that was active for about 10 years. One of her mentors was the founding director of the University Community Service Center, Michelle Obama. Obama offered advice on law school and encouraged McCoy to take her husband’s class. But McCoy’s father wanted her to graduate early, so she just sat in rather than formally enrolling. She still ribs him: “Dad, you told me not to take the class with the first black president!”

After earning her law degree at the University of Michigan, McCoy worked at the Legal Aid and Defender Association and several firms, including her father’s. Since 2007 she has served as an attorney for the Michigan Children’s Law Center in Detroit, advocating for children in neglect and abuse cases and in delinquency cases.

With school out, McCoy spent the summer planning where she will give her presentations next academic year. Some people have advised her to start a nonprofit, others to write a book.

In the black community, McCoy says, “generally, I know that most peo-

ple would say they’re scared of the police.” She had that fear herself growing up. But when she brings police officers into schools, sometimes students want to know, “What does it take to become a police officer?”

So McCoy put together a resource list and asked police recruiters to attend the programs. In the short term, her program helps young people stay safe. In the longer term, it might bring about a more significant change. If there’s more diversity on the force, McCoy says, “that can definitely change the culture.”

—Carrie Golus, AB’91, AM’93

CITATIONS



Healthy aging isn’t just about managing chronic disease.

AGING GRACEFULLY

Mental health, mobility, and sensory function are important and overlooked indicators of healthy aging, according to new research by **Martha McClintock**, the David Lee Shillinglaw Distinguished Service Professor in Psychology; **William Dale**, AM’94, PhD’97, MD’99, associate professor and section chief of geriatrics and palliative medicine; **Edward O. Laumann**, the George Herbert Mead Distinguished Service Professor in Sociology; and **Linda Waite**, the Lucy Flower Professor in Sociology, published in the May 31 *Proceedings of the National Academy of Sciences*. A study of 3,005 individuals ages 57–85 found that focusing on ailments like cancer, heart

disease, and obesity may not be the best way to predict mortality in older adults, while poor mobility and mental health are more important than previously acknowledged. The study highlights the value of looking at health comprehensively, according to the researchers. “A shift of attention is needed from disease-focused management ... to overall well-being,” Dale said.

BUMPER CROP

Drought and increased global temperature caused by climate change are major threats to food security. But higher levels of carbon dioxide in the atmosphere—a key driver of global warming—may actually benefit crop efficiency, according to

new research by **Delphine Deryng** and **Joshua Elliott** of the UChicago Computation Institute published online in *Nature Climate Change* on April 8. To analyze the effect of climate change on crops, the team used a computer model that incorporated predictions about future temperature and atmospheric CO₂ levels, as well as data from real-world studies of CO₂’s influence on crop production. Such studies have shown that increased CO₂ enhances photosynthesis and leads to higher crop water productivity, the ratio of crop yield to water use. By 2080, the computer model found, elevated CO₂ will improve water efficiency for key crops such as wheat, maize, rice, and soybeans, offsetting some crop losses due to increased temperature.

IN THE FAMILY

In the midst of the Great Recession, lenders saw family-owned businesses as safe investments. As a result, interest rates were more favorable for family companies, according to a Fama-Miller Center for Research in Finance working paper coauthored by **Margarita Tsoutsoura**, associate professor of finance and Charles E. Merrill Scholar at Chicago Booth. The study examined syndicated loans, or loans made to a single borrower by multiple investors, in the years surrounding the

2008 bankruptcy of Lehman Brothers. The researchers discovered that family firms had significantly lower borrowing costs than non-family firms as they sought new investment in the turbulent aftermath of Lehman’s collapse. In some cases, the creditors even required the family to maintain ownership or voting power as a condition of the loans. “Creditors value the presence of the family,” the authors write.

PRIMPING PAYS

For women, grooming practices such as applying makeup can boost earnings, write UChicago sociology graduate student **Jaclyn Wong**, AM’13, and **Andrew Penner**, AB’01, of the University of California, Irvine, in June’s *Research in Social Stratification and Mobility*. Wong and Penner found that people rated as attractive in a face-to-face interview earn more than people of average attractiveness but that grooming reduces this pay gap significantly, especially for women. In addition, being poorly groomed is penalized more than being unattractive. The findings, based on a study of 14,600 adults, demonstrate that “being attractive is not enough; it is *doing* attractiveness appropriately that ... gets rewarded in the labor market.”

—Susie Allen, AB’09

In your dreams

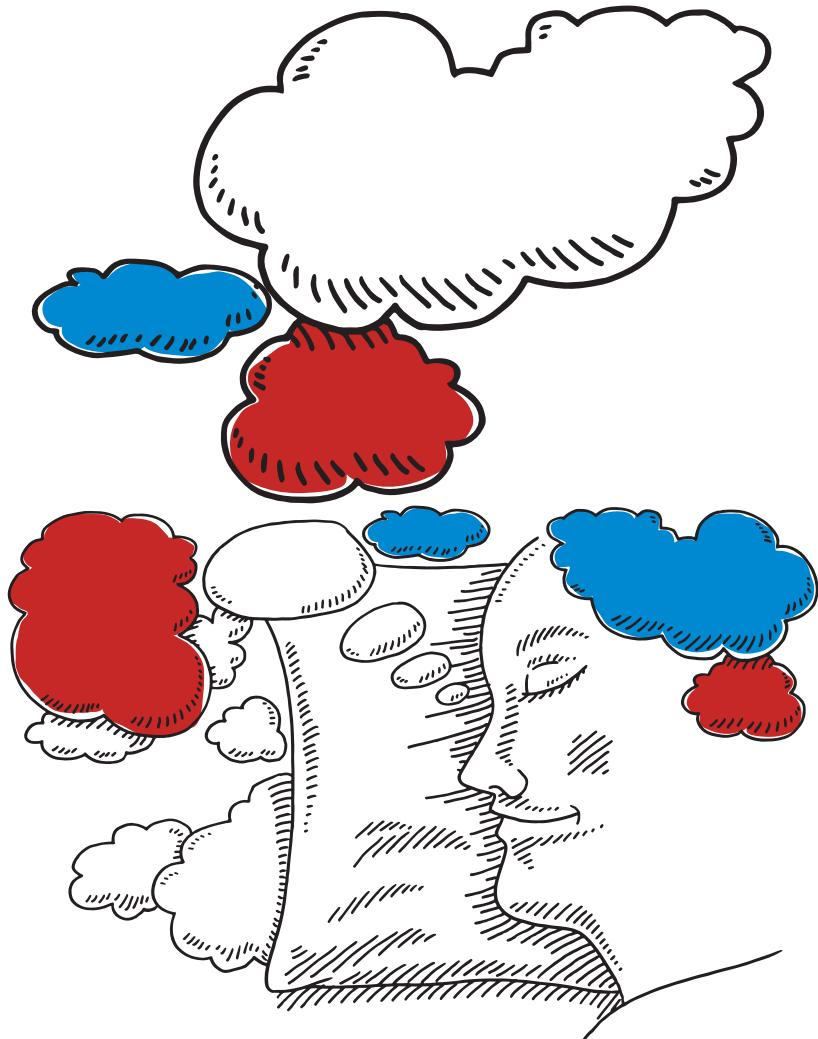
Kelly Bulkeley, PhD'92, examines what our dreams reveal about our religion, our culture, and our politics.

Earlier this year, **Kelly Bulkeley**, PhD'92, began collecting dreams about presidential contenders Hillary Clinton and Donald Trump. So far the dreams he has gathered about Clinton tend to be straightforward and low key, where “people feel a connection with her, or talk with her,” says Bulkeley, similar to what they were in 2008.

Trump dreams have been far more numerous—and “all over the map.” In some, the dreamers reported being surprised at how nice he was, or were drawn to a bold move he made. Others have been nightmares, where dreamers are “upset or frustrated by things that he’s doing, or he’s attacking them, or he’s attacking someone else,” he says. Trump is clearly “pushing people’s dream buttons.”

Bulkeley has analyzed Americans’ political dreams during every presidential election cycle since 1992, when he was a doctoral student at the Divinity School. At that time, he was focusing on the work of Sigmund Freud, Carl Jung, and other 20th-century psychologists who were “pretty adamant that dreams were just about personal, individual issues and concerns and have no relevance to bigger social and collective concerns.” Bulkeley was skeptical.

It happened to be an election year, so he set up a small study. The results were encouraging—Bill Clinton, Ross Perot, and George H. W. Bush all appeared in the study subjects’ dreams in ways that reflected both the dreamers’ political leanings and general post-election analyses. The dreams’ content largely revolved around personal concerns, but the candidates showed up in consistent guises—Clinton as change, Perot as anxiety. (Bush, who was widely seen as unable to connect well with voters, appeared the least often in subjects’ dreams.)



One of Bulkeley's subjects dreamed of dancing the tango with Donald Trump.

Currently a visiting scholar at the Graduate Theological Union in Berkeley, California, and senior editor of the American Psychological Association’s journal *Dreaming*, Bulkeley publishes articles and blog posts on presidential dreams every four years. He’s also written a book about political dreams, *American Dreamers* (Beacon Press, 2008). It’s a good way to “illustrate this bigger point about the cultural dimension to dreaming for a contemporary American audience” for whom dream research may seem too New Age, he says. But the bulk of his work over the past 25 years draws

on neuroscience, evolutionary biology, anthropology, and psychology to connect dreaming with other cultural beliefs, particularly religion.

His most recent book, *Big Dreams: The Science of Dreaming and the Origins of Religion* (Oxford University Press, 2016), focuses on what Jung called “big dreams”—our most visceral and memorable. These include dreams of flying and falling, of sexual encounters, and of being attacked. Big dreams have a physiological response and an evolutionary explanation (like how being attacked in a dream may be our body’s way of helping us prepare for a

real-life fight). They're also the ones that leave a psychological impact long after waking.

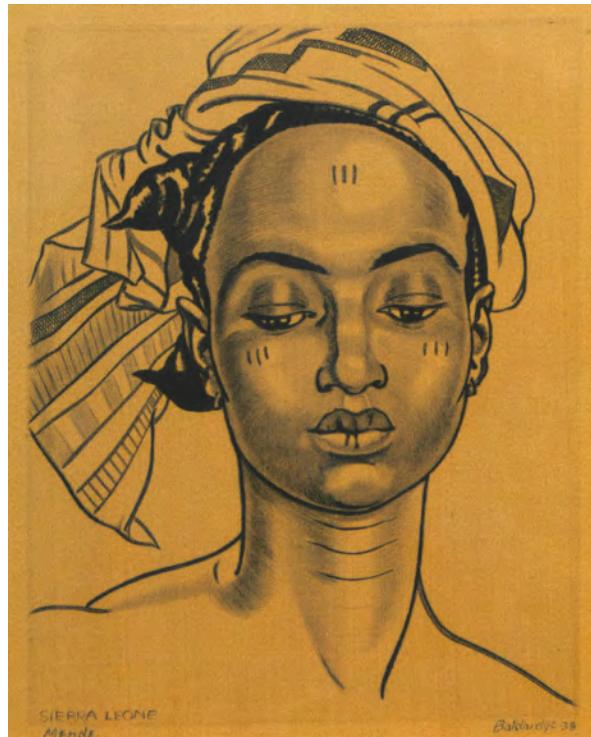
Big dreams are found in many religious texts and cultural lore, from prophetic visions to possessions to divine visitations. The physical effects are part of our sleep cycles; the dreams themselves "create an understanding of those [physiological] experiences," says Bulkeley. For example, some sexually violent dreams are accompanied by temporary sleep paralysis; they likely played a role in generating stories of physically overpowering demonic seduction, from the incubus or succubus of European folklore to the "old hag" that haunted early Newfoundland settlers. To Bulkeley, dreams like these are a "primal wellspring of religious experience."

Many of the big dreams analyzed in the book came from Bulkeley's online Sleep and Dream Database. Launched in 2009, the open and searchable database now has more than 20,000 dream reports. Culled from Bulkeley's own studies and surveys as well as from other scientific and historical sources, the reports are matched with dreamers' sleep patterns and demographics.

Early in his career, Bulkeley was skeptical of quantitative dream analysis, which uses text analysis and similar tools to dissect dreams. "It seemed to sap the dreams of any lived meaning and organic gestalt qualities." Now he has found that in addition to providing a trove of dreams to analyze, the database allows research that extends to data-driven observations, adding weight to his arguments and exposing new themes and motifs. He's found that women and political liberals have higher rates of dream recall, that lucid dreaming (in which the dreamer is aware he or she is dreaming) is relatively widespread, that children dream more about animals, and that Americans dream a lot about cars.

Bulkeley is finishing a study on how political views on immigration affect Americans' dreams. He'll continue to collect dreams about presidential candidates up until the election and maybe afterward. "It will be interesting, whether or not he wins, to see if the Trump dreams fade," he says, "or if his vivid and controversial character becomes a regular part of the American dreamscape." —Helen Gregg, AB'09

ORIGINAL SOURCE TRAVEL RECORDS



Early in their relationship, Cyrus LeRoy Baldridge, PhB 1911, and his partner, Caroline Singer, pledged that every two years, regardless of their economic circumstances, they would take a long trip abroad.

In the 1920s and '30s, Baldridge, an artist, and Singer, a reporter, traveled widely, gathering material for the illustrated travel guides they wrote after returning to the United States. Baldridge later donated many of his sketches, illustrations, and papers to UChicago.

"They wrote beautiful books—some of the great tour books, I think, that have ever been written," says Jay Mulberry, AB'63, MAT'71. Mulberry cocurated an exhibition of Baldridge's work at the Special Collections Research Center (through September 9).

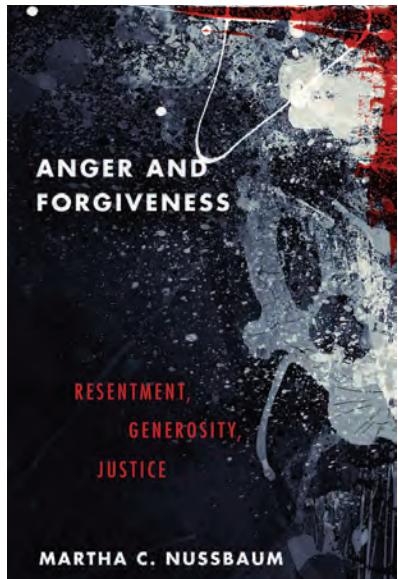
Convinced of her son's artistic gifts, Baldridge's mother enrolled him in the Chicago School of Illustration when he was just 9. At 18, he entered UChicago, where he drew

cartoons for the *Maroon* and the yearbook, *Cap and Gown*.

During World War I, Baldridge developed an interest in African American culture that motivated him and Singer to spend 13 months traveling from Sierra Leone to Ethiopia. He sketched memorable scenes and individuals (among them this woman from Sierra Leone), many of which were included in the couple's *White Africans and Black* (W. E. Rudge, 1929). In its day, the book was considered one of the best and most respectful accounts of African life.

In the following decades, Baldridge drew illustrations for magazines and books to support himself and fund his travels. He also wrote an autobiography, *Time and Chance* (J. Day, 1947), and was active in left-wing politics.

Baldridge's work, Mulberry says, "is definitely realist. ... But it isn't catching all the details. It's trying to catch the soul." —Susie Allen, AB'09



Nussbaum no longer sees anger as a constructive force.

ETHICS

Overcoming anger

Martha C. Nussbaum argues a culture of rage and retribution is harming American society.

Americans are living in a culture of outrage, one fueled by the belief that anger and revenge are central to achieving justice, political change, and power, writes philosopher **Martha C. Nussbaum** in her new book *Anger and Forgiveness* (Oxford University Press, 2016).

The problem, says Nussbaum, the Ernst Freund Distinguished Service Professor of Law and Ethics, is that anger doesn't truly deliver any of those things. Our focus on payback—whether it is expressed as political vitriol, mass incarceration of low-level drug offenders, or increased use of victim impact statements during sentencing—can keep us from making constructive gains as a society.

Anger and Forgiveness, which is based on Nussbaum's John Locke Lectures at Oxford University, argues that anger is fundamentally flawed,

rooted in weakness, and ultimately harmful. The book represents an evolution in how the world-renowned philosopher, who in June received the prestigious Kyoto Prize for her body of work, thinks about outrage—a shift that acknowledges a complicated entanglement with fairness.

"In earlier work, I said that anger was actually constructive because it involves a demand for justice," Nussbaum says, recalling her 2004 book *Hiding from Humanity: Disgust, Shame, and the Law* (Princeton University Press) and a 2012 Indian newspaper column in which she called on survivors of a 2002 massacre in Gujarat to express resentment rather than forgiveness.

But later, as she unpacked the complexities of anger and forgiveness—thinking critically about centuries of philosophical and religious tradition and studying the writings and practices of modern revolutionaries Martin Luther King Jr., Nelson Mandela, and Mohandas Gandhi—she found herself focusing on retributive desires and the ways in which they can impede social progress.

The desire to get even "is mired in this sort of magical thinking that isn't coherent and doesn't give us guidance for the future," she says. "Most people think that if you have a proportional payback, that somehow balances out the offense. But of course it doesn't. It doesn't bring back the person who is dead, and the Greek philosophers very early recognized that."

The ancient Greeks and Romans also viewed anger as inherently weak—an insight that runs contrary to modern-day American norms that elevate anger. Nussbaum argues that although anger might be effective in certain narrow situations in which it corrects a person's relative status, it is essentially a way to avoid the real work of creating a better future.

The peaceful, successful movements led by King, Gandhi, and Mandela highlight the power of generosity. When these leaders did experience or express anger, it was a borderline variety that Nussbaum calls "Transition-Anger," in which

one feels a sense of outrage but doesn't want the offender to suffer.

The problem in contemporary America is that "we don't really think we have to do that work," Nussbaum says; we just have to get angry. Pursuing retribution, she notes, is easier than tackling systemic change, grappling with racial bias, or working cooperatively to understand and promote social welfare policies.

She points to the imprisonment of nonviolent drug offenders, which skyrocketed under mandatory sentencing guidelines during the war on drugs in the 1980s and 1990s but has come under sharp criticism in recent years as costly, ineffective, and disproportionately devastating to minority communities.

Nussbaum also takes a skeptical view of some conceptions of forgiveness that are essentially transactional; they require initial anger or resentment that can be waived in exchange for contrition. She favors a more generous approach—or at least one that attempts to move in that direction.

She was particularly moved by the families of some of the nine people killed during the South Carolina

church shooting in June 2015. During accused killer Dylann Roof's bail hearing, the judge invited the families to offer victim impact statements—expressions that are often filled with resentment.

But all who spoke rejected anger and most offered forgiveness in an attempt to move forward.

"What was so striking to me was that obviously they had been working hard on this issue," Nussbaum says. "They said they wanted [Roof] to recognize the error of his ways, and they said they wanted to ultimately forgive him." One woman, acknowledging her anger, described herself as "a work in progress."

That was an idea King encouraged his followers to embrace, and one Nussbaum hoped would resonate with others. "We can all embrace this idea that we're a work in progress," she says. And ultimately, she hopes readers will recognize that it is work worth pursuing.—Becky Beaupre Gillespie

FOR THE RECORD



PEOPLING THE PEARSON INSTITUTE

Political scientist and economist **James A. Robinson**, University Professor at Chicago Harris, has been chosen as the inaugural faculty director of The Pearson Institute for the Study and Resolution of Global Conflicts at the University of Chicago. In addition, two new faculty members have received named professorships at The Pearson Institute. **Chris Blattman**, the Ramalee E. Pearson Professor of Global Conflict Studies, focuses on poverty and violence reduction in developing countries.

Oeindrila Dube, the Philip K. Pearson Professor of Global Conflict Studies, is a scholar of the political economy of conflict and development. The Pearson Institute launched this July.

TACKLING DEVELOPMENT CHALLENGES

Chicago Harris has partnered with India's Tata Trusts to launch the Tata Centre for Development at UChicago. The collaborative center will investigate economic and social development challenges in India with an initial focus on health, water and sanitation, and energy and the environment. A pilot program in partnership with the State of Karnataka in southwest India aims to improve access to and usage of health insurance across the state.

NEW APPOINTEES

Sian Beilock, **Melissa Gilliam**, and **Melina Hale**, PhD'98, have been named to leadership positions in the Office of the Provost. As executive vice provost, Beilock, the Stella M. Rowley Professor in Psychology, will lead strategic initiatives that ensure the University's

preeminence and distinction (see *On the Agenda*, page 7). Gilliam, a professor in obstetrics/gynecology and pediatrics, has been named vice provost for academic leadership, advancement, and diversity, and will oversee the development of scholars throughout their academic careers and ensure that the University continues to build a diverse pipeline of scholars. Hale, professor in organismal biology and anatomy, will take the position of vice provost for academic initiatives, with responsibility for development of key academic initiatives that span departments and divisions.



SECOND TERM FOR TIRRELL

Matthew Tirrell, the Pritzker Director and dean of the faculty of the Institute for Molecular Engineering, began his second five-year term in that role July 1. Tirrell is the founding director of the institute, which translates advances in basic physics, chemistry, biology, and computation into new tools to address important societal problems. Since Tirrell's arrival in 2011, the institute has attracted 15 faculty members and launched a graduate program. The first class of 30 undergraduate molecular engineering majors will graduate in 2018.

FULL HOUSES

When the College's Campus North Residential Commons opens this fall, its eight new house names will honor University alumni, supporters, and dean of the College **John W. Boyer**, AM'69, PhD'75. To name the John and Barbara Boyer House in honor of the

longtime dean and his wife, 60 current and former members of the Visiting Committee on the College and Student Activities made gifts to the Metcalf Internship and Odyssey Scholarship programs. Like Boyer House, Dr. Robert A. Behar House, Brady W. Dougan and Laura E. Niklasen House, Rogers Family House, Alexis and Steven Strongin House, Immanuel Thangaraj House, Tina and Byron Trott House, and Francis and Rose Yuen House will each be home to about 100 undergrads.



DARING DESIGN

New York-based architecture firm Diller Scofidio + Renfro has unveiled the design for the Rubenstein Forum, a 90,000-square-foot building for major events and scholarly collaboration that will be located at the southeast corner of Woodlawn Avenue and 60th Street. The design features a two-story base and 165-foot tower. The building's largest meeting space, tentatively named the University Room, will accommodate up to 600.

BIG DATA

The Genomic Data Commons, a new digital platform for sharing cancer genomic data and clinical information, launched June 6 with approximately 4.1 petabytes of data from National Cancer Institute-supported research programs. That day, vice president Joe Biden toured the GDC's UChicago-based operations center. The GDC allows cancer researchers to access and share data with the research community, advancing studies to understand cancer and develop personalized patient treatment.



SPACE FOR ARTISTS

With the help of community partners, the University aims to develop a stretch of historic East Garfield Boulevard into a major arts and culture corridor called the Arts Block. The Arts Block will expand on the success of the University's Arts Incubator on East Garfield, as well as efforts to convert vacant spaces along the street into artist studios, performance and exhibition venues, retail stores, and spaces for public events and education programs. **Theaster Gates**, professor in visual arts, is leading the project.

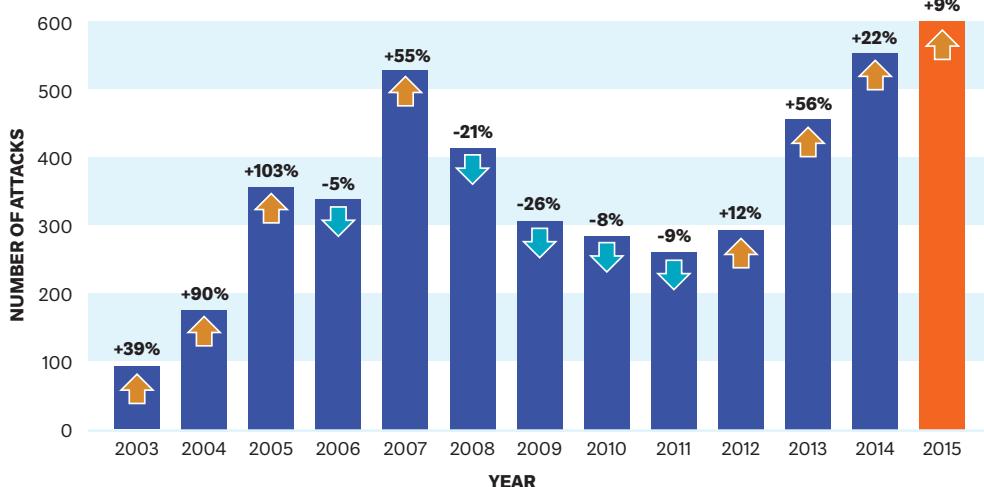
TOP TEACHERS

Daniel McGehee, associate professor of anesthesia and critical care; **Derek Neal**, professor of economics; **Emily Lynn Osborn**, associate professor of history; **Malte Willer**, assistant professor of philosophy; and **Sarah Ziesler**, senior lecturer of mathematics, have received the Llewellyn John and Harriet Manchester Quantrell Awards for their undergraduate teaching. For their work with graduate students, **Charles Cohen**, the Mary L. Block Professor of Art History; **Nicholas Hatsopoulos**, professor of organismal biology and anatomy; **Heinrich Jaeger**, the William J. Friedman and Alicia Townsend Professor of Physics; **Heather Keenleyside**, AM'03, PhD'08, assistant professor of English; and **Linda Zerilli**, the Charles E. Merriam Distinguished Service Professor of Political Science, have received the 2016 Faculty Award for Excellence in Graduate Teaching and Mentoring.

FIG. 1

DEADLY FORCE

2015 in Context: Rise in Global Suicide Attacks



Robert Pape describes suicide attacks as “the lung cancer of terrorism.” Deadly and difficult to defend against, they kill 10 times as many people, on average, as non-suicide attacks.

Overall, terrorism has been decreasing since the 1980s, but if you look at suicide terrorism, “you understand that we should have been much more worried about these events, ... because the trend has been going up,” says Pape, professor in political science and director of the Chicago Project on Security and Terrorism (CPOST).

Pape and a team of CPOST students gather their data from media coverage and from reports by the terrorist groups themselves. In the past several years, they’ve issued annual indexes of suicide attacks. (The graph above is taken from the 2015 Suicide Attack Index, released this April.)

Not only has the number of attacks been increasing since 2012, the number of large-scale attacks, like those in Paris and Nigeria, reached a 12-year high in 2015, according to the index.

Pape argues suicide terrorism is a direct result of military intervention. In particular, his data

show that suicide attacks are often a response to military campaigns on territory prized by the terrorist groups; frequently, the attacks occur when the occupying military force is beginning to loosen its territorial control.

Because terrorist groups lack the advanced weapons and equipment of traditional armies, suicide attacks are the most effective tactic they have at their disposal—Pape estimates that roughly a third of suicide attacks allow groups to take and hold territory. “That’s pretty important for these militant non-state actors who don’t have any alternatives,” he says.

The annual suicide attack indexes help Pape and his team identify emerging trends in suicide terrorism. The 2015 index revealed a significant and unexpected uptick in suicide attacks by women in Nigeria, a phenomenon Pape and his students are investigating this summer.

The data Pape has collected challenges the perception that suicide terrorism is a tactic used exclusively by radical Islamic groups. In fact, it was the Sri Lankan Tamil Tigers, a secular group, that pioneered the modern phenomenon of suicide terrorism as a war tactic.

From 1980 to 2003, Pape points out, they launched more suicide attacks than any other group, including Hamas and Islamic Jihad in the Palestinian territories.

The belief that only Muslim groups engage in suicide terrorism “is becoming a self-fulfilling prophecy,” Pape argues. “The more we’re putting different Muslim populations under heavy military intervention stress, the more we’re seeing suicide terrorism.” Pape believes the American invasions of Iraq and Afghanistan triggered the deadly wave of suicide attacks in the Middle East and the West that continues today.

To deter potential terrorists, Pape argues the United States should limit military intervention and instead focus on improving domestic security. He also hopes the United States will support stable governance structures that benefit the local people in the Middle East, not just American interests. This, he thinks, will prevent the rise of new terrorist groups and recurrence of old ones. “The study of suicide terrorism ... tells us that the political solutions are the true lasting solutions,” he says.—Susie Allen, AB’09

She leads

With She Leads Africa, Afua Osei is supporting talented businesswomen in one of the world's fastest-growing economies.

Africa has some of the highest rates of female entrepreneurship in the world—in countries like Nigeria and Zambia, 40 percent of women are in the process of starting a new business or are owners of new enterprises.

She Leads Africa, cofounded by **Afua Osei**, MBA'13, MPP'13, is focused on identifying, training, and investing in talented female entrepreneurs and businesswomen in Africa and the diaspora. SLA provides mentorship, classes, and direct funding as well as business connections. Pitch competitions held in 2014 and 2015 gave selected start-ups the chance to impress international investors and win funding from SLA. Now it has transitioned into an accelerator program for female-led start-ups, hosted in partnership with financial-technology platform Venture Capital for Africa.

This year SLA's traveling professional bootcamp, SheHive, is hitting cities from Nairobi to London, and the SLA website and e-newsletters aim to provide business guidance and inspiration. Osei wants SLA to become the top resource for #MotherlandMoguls, the young, ambitious African women she sees as a powerful force in this emerging economy. Osei's answers have been edited and condensed.—*Helen Gregg, AB'09*

What inspired She Leads Africa?

While I was at UChicago I spent a summer in Lagos, Nigeria, working at a mobile technology firm. I was speaking to one of my female colleagues and asked her, if you wanted professional development, or career guidance, or all that stuff that you get at Booth, where do you go? And she's like, well, we don't really have that. So I started a small start-up that focused on career women and helping them do better in the workplace. During my final year at Booth, I took it through the John

Edwardson, MBA'72, Social New Venture Challenge, and in spending more time with these African women, I realized that in Africa everyone has a side business. Even if you have a full-time corporate job—people just naturally have an entrepreneurial spirit and hustle.

What do you mean by "social enterprise" when describing SLA?

One of the reasons that we focus on high-growth women-led start-ups is that when a lot of people think of African entrepreneurs, they're thinking of subsistence entrepreneurs. Women who have a small roadside stand. A woman who has a farm. And a lot of the language out there about women entrepreneurs in Africa is not inspiring or encouraging. It's always, let's help these women have their small plot of land, or their goat. And we say, no, there are lots of young women with aspirations to build global start-ups. They're talented, they have great ideas, they have traction, and those are the kinds of women that we want to work with.

Can you share a success story?

A first-place pitch competition winner [Cherae Robinson, founder of consulting firm Rare Customs and travel company Tastemakers Africa] went on to raise \$300,000 in a seed round, and 50 percent of that money came from introductions through She Leads Africa. DigitalUndivided, which is all about improving the rates of women founders of color, found that on average black women only raise about \$36,000 for their start-ups.

We're building a community and a movement of confident and inspired young women, so we're excited to have more than 50,000 in our network across more than 25 countries. These are young women who are able to learn from each other, make relevant business connections, and know that they are not on this journey alone.

What is your vision for SLA?

Our goal is to become the No. 1 digital destination for smart and ambitious



young African women. When we look across the African media landscape we know there is an opportunity to inspire, advise, and support young women in achieving their professional dreams. We hope to reach more than one million of them across the continent and diaspora.

Why is SLA important to you personally?

I spent a lot of time going to start-up and investment events, and it was really discouraging not to see anyone who looked like me. It's discouraging if you don't see anyone who represents the life that you live, showing you that it's possible. So I wanted to go find other people who had the same aspirations that I do, and to build something global and impactful.

I also wanted to make sure young women in broader communities in Africa see that there's a different way to build out this model. We don't have to follow what's happening in the West in terms of only having 20 percent or 30 percent female engagement in entrepreneurship. We can create our own culture here. We can create innovation ecosystems that are inclusive and diverse from day one, and we can make sure that all people have the ability to create a life and a business that works for them.

COURSE WORK

AMERICAN HISTORY

History Inc.

BY SEAN CARR, AB'90

This May afternoon, Monday of seventh week, it pays to be in Cobb 319 a few minutes before 1:30, the official start time of *Rise of the Modern Corporation*. A quartet of early arrivals—like the class itself, an even split of undergrads and graduate students—is sharing homemade chocolate chip cookie bars from a large ziplock bag.

More of the class materializes, along with the professor, **Jonathan Levy**, AM'03, PhD'08. This is Levy's first year on the UChicago faculty after seven years at Princeton. The author of *Freaks of Fortune: The Emerging World of Capitalism and Risk in America* (Harvard University Press, 2012), Levy is set to publish his second book, *Ages of American Capitalism* (Random House), this year, and he is at work on a third, a history of US corporations. His new course is a survey of how the American corporation has evolved over the past two centuries. It touches on government regulation and corporate governance, workplace culture, globalization, and other topics.

Levy is decidedly noncorporate today in a button-down shirt and jeans. All he carries are a pen, a notepad, and a paperback copy of today's reading, *White Collar: The American Middle Classes* (1951) by C. Wright Mills.

Mills's 1951 sociological treatise describes the business world after the transition from captains of industry to corporate managers. Unlike the 19th-century farmer or businessman in charge of his own destiny, "The twentieth-century white-collar man ... is always somebody's man, the corporation's, the government's, the army's; and he is seen as the man who does not

rise." Mills invokes Arthur Miller's *Death of a Salesman* (1949), George Orwell's *Coming Up For Air* (1939), and the "gallery of tortured and insecure creatures from the white-collar world" in J. B. Priestley's 1930 novel *Anger Pavement* as exemplifying the cultural shift.

Levy says he wants to start by looking at *White Collar* as a "sociologic understanding of the corporation," in contrast to the mostly political conception of the previous week's reading, *The Corporation in Modern Society*, a 1959 collection of essays edited by economist Edward S. Mason. "There are many passages I could point to," Levy says, lifting his copy of Mills,



There's something to the anonymity. There's something going on here that we don't even know who these people were. We've heard of Rockefeller.

"but I won't point to one in particular—although look at that. I just opened up my book randomly and on page 78, at the top, he says, 'Yet, overall, the loose-jointed integration of liberal society is being replaced, especially in its war phases, by the more managed integration of a corporate-like society.'

"What is a 'corporate-like society'?" Levy asks and leans back, hands in his front pockets.

"I think he thinks of it as bureaucratic," says a male grad student. "There's division and specialization of labor. Managers—managers upon managers—upon managers, none of whom can make independent decisions."

Levy asks if anyone can name a manager from 1950s or '60s corporate America. Walter Reuther? No—labor leader, Levy says. Would Walt Disney count? Sure. Another student, however, quibbles that Disney actually owned a big part of the company. Robert McNamara? Levy thinks he's better known as a politician than for his time at Ford Motor Company. "I'm just saying, there's something to the anonymity," Levy explains. "There's something going on here that we don't even know who these people were. We've heard of Rockefeller."

The discussion roams as the class makes its way into the book. They hit on movement within corporate hierarchies (it's mostly lateral), the definition of old middle class vs. new middle class, old entrepreneurs vs. new entrepreneurs (all agree Mills is fuzzy, if not downright slippery, on the socioeconomic-strata front), how to situate Mills with the more optimistic outlook on bureaucratic efficiency found in fourth week's reading of Walter Lippmann's *Drift and Mastery* (1914), and where agency resides in this new world.

One of the undergrads names a favorite phrase from Mills's book: *organized irresponsibility*. "I don't think he thinks there's agency with anyone," he says. "Nobody has responsibility—but it's somehow organized nonetheless. I think that's the whole thing he's trying to illustrate."

Levy thinks he's found the "money



Welcome to the working world: *Mad Men* interpreted 1950s and '60s corporate culture for a 21st-century audience, with a focus on women's experiences in offices like that of the fictional Sterling Cooper advertising agency.

paragraph.” The gist is that in the 19th century “the victim knew he was being victimized, the misery and discontent of the powerless were explicit.” In the corporate 20th century, however, “Many whips are inside men, who do not know how they got there, or indeed that they are there.... Power shifts from the visible to the invisible, from the known to the anonymous. And with rising material standards, exploitation becomes less material and more psychological.”

Levy looks up from the book. “Bleak,” he says. The cookie bars, which have been making their way around the table, have reached Levy just in time. He takes a reassuring bite.

“This is kind of anticipating the Foucauldian turn in political theory, where power is now seen as invisible,” a male student says. From there, more and more connections are drawn: *The Matrix*. Jeremy Bentham’s panopticon. Hobbes’s *Leviathan*. The first season of *Mad Men*.

A female student notes that Mills’s is the first book in the course to introduce women into corporate life. Together she and Levy describe how men, free of aristocracy and monarchy in the 19th century, had been able

to forge their own paths in the world until they were absorbed into corporate hierarchies. But for women, Levy says, “the precise moment that they leave home, that they’re released from kind of household bonds of hierarchy and domination, they immediately enter into the new hierarchies of the corporate office place. There’s sort of no space in between whatsoever.”

The conversation moves on to the question of status versus money versus power, or as one undergrad puts it,

why you probably won’t see UChicago grads welding wind turbines, even for \$80,000 a year. Basically, in Mills’s view, it’s not entirely (if at all) about the Benjamins; it’s about your status in the hierarchy. And if your focus is on status, a young woman explains, “you’re always dominated by someone.”

Soon it’s 2:50. The cookie bars are gone but the discussion shows no signs of abating.

“Alright,” Levy jumps in, “so to be continued on Wednesday, okay?” ♦

SYLLABUS

The University of Chicago’s founding benefactor, John D. Rockefeller, would have had difficulty warming to the reading list for *Rise of the Modern Corporation* (a history class cross listed in Law, Letters, and Society). It includes not only Ida Tarbell’s 1904 muckraking classic *The History of the Standard Oil Company* (Dover Publications, 1903) but the US Supreme Court’s 1911 decision in

Standard Oil Co. of New Jersey v. United States.

Moving from the corporation’s “colonial origins to its present form as a major actor on the American, indeed, world stage,” the class also read *Trustees of Dartmouth College v. Woodward* (the 1819 decision limiting state authority over private contracts); *Barbarians at the Gate: The Rise and Fall of RJR Nabisco* (Harper Business,

2009) by Bryan Burrough and John Helyar; and Karen Ho’s *Liquidated: An Ethnography of Wall Street* (Duke University Press, 2009).

Final grades for the class were split equally between class attendance and participation; three reading responses—“an analysis, in your own voice, of questions or themes raised by the texts”—and a final paper.—S.C.

energy

HIS CURRENT QUEST

John B. Goodenough, SM'50, PhD'52, the father of the lithium-ion battery, sparked the wireless revolution. Now, at 94, he's working on the next breakthrough.

BY HELEN GREGG, AB'09

ILLUSTRATION BY BRAD YEO



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John B. Goodenough can still remember, word for word, what one of his professors told him when he arrived on the University of Chicago campus 70 years ago: “I don’t understand you veterans,” said John A. Simpson, then a new instructor fresh off the Manhattan Project, later a pioneer in the study of cosmic rays. “Don’t you know that anyone who has ever done anything significant in physics had already done it by the time he was your age; and you want to begin?”

Goodenough, SM’50, PhD’52, breaks into his hooting lingering laughter that can be heard down the hall from his top-floor office in the engineering building at the University of Texas at Austin. He’d come to UChicago with a

WE HAVE TO, IN THE NEAR FUTURE, MAKE A TRANSITION FROM OUR DEPENDENCE ON FOSSIL FUELS TO A DEPENDENCE ON CLEAN ENERGY.

Goodenough has had a major impact on both battery science and fundamental materials science and chemistry research, says Peter Littlewood, director of Argonne National Laboratory. “I don’t understand why he isn’t a Nobel Prize winner.”



government-funded fellowship and “a good enough undergraduate record at Yale” (he rolls past the pun) that Simpson took him on. Besides, Goodenough had already decided that if he ever got the chance, he was going to study physics and was going to do something significant.

Today Goodenough is best known as the father of the lithium-ion battery. The rechargeable, lightweight battery is found in nearly all portable electronics, from power tools and medical devices to smartphones and laptops.

The battery made such mobile devices possible; it “revolutionized consumer electronics with technical applications for portable and stationary power,” according to the citation for Goodenough’s 2011 National Medal of Science.

Now 94 and the Virginia H. Cockrell Centennial Chair in Engineering at UT–Austin, Goodenough arrives in his lab every morning before 8 a.m. With a small flock of graduate students and postdocs, he’s working on a new battery to reduce our use of fossil fuels—and the greenhouse gases created as they’re converted to electricity—by providing a reliable, efficient way to store and transport wind and solar energy.

“We have to, in the near future, make a transition from our dependence on fossil fuels to a dependence on clean energy,” he says. “So that’s what I’m currently trying to do before I die”—to leave behind a cleaner, better world.

Born in 1922, Goodenough grew up outside New Haven, Connecticut. His parents’ “mismatched” marriage made for a difficult home life and Goodenough struggled with undiagnosed dyslexia (back then, he says, “you were just a ‘backward student’”). But he was determined to follow his older brother away to boarding school, so “I taught myself to write so I could write the [entrance] exam.” He was given a scholarship and at age 12 entered the Groton School in Massachusetts. The rigorous and highly structured education did him good, he says, and he was accepted to Yale in 1940.

Goodenough had almost completed his undergraduate degree in mathematics when he was called to active duty in 1943 as an Army meteorologist. (He had volunteered for the role at a professor’s suggestion; “I didn’t want to be a hero,” he says with a hoot.) The next spring he was granted a bachelor’s degree after Yale gave him credit for an Army meteorology course.

He didn’t need to see combat to “realize the stupidity of war,” Goodenough says. Service left him with “the need to somehow do something for everyone”—to contribute, even in a small way, to the greater good. He thought his dyslexia would rule out a career in law or politics and had begun to take an interest in physics. The field was moving forward rapidly, and reading Alfred North Whitehead’s 1925 book

Science and the Modern World convinced him “that much of the intellectual ferment of my generation would be in science,” he wrote in his autobiography in 2008. “I decided I should study physics if I ever had the opportunity.”

Shortly after the war that opportunity arrived in the form of a surprise telegram. Federal funds had become available to send a select group of returning Army officers to Chicago to do graduate work in the physical sciences. Unbeknownst to Goodenough, a Yale professor had submitted his name. “My debt to Professor Miles is profound,” he wrote in his autobiography.

Goodenough enrolled at UChicago. Going back to school after several years in the Army was a challenge, especially studying a mostly new subject—and especially under Enrico Fermi, whom Goodenough remembers as “old school.” His professors lectured only on topics that interested them, and he was expected to fill in the gaps independently. The professors were also not allowed to collaborate with students on their theses. During their first meeting, Goodenough’s adviser, solid-state physicist Clarence Zener, told him, “You’ve got two problems. The first is to find a problem and the second is to solve it. Good day.”

Goodenough did both, writing his thesis on how and why the structure of hexagonal metal alloys changes with the concentration of the conduction electrons, and got a PhD in 1952. “You see,” he says of Zener, “he did his job very well.”

After graduation Goodenough accepted a position at the Massachusetts Institute of Technology’s Lincoln Laboratory, established with federal funds in 1951 to build the country’s first air defense system (what would become the Semi-Automatic Ground Environment system, or SAGE). Goodenough’s team, tasked with improving memory capabilities in early computers, developed ceramic magnetic memory cores that enabled the first random-access memory (RAM); it was Goodenough’s first foray into chemistry and materials engineering. He worked at MIT Lincoln for more than two decades, investigating magnetism, cooperative orbital ordering, and d-electron behavior. His work describing electron exchanges between atoms and the resulting Goodenough-Kanamori rules laid the foundation for future design of magnetic materials and aided the development of computers.

Batteries have been around since 1800 when Italian scientist Alessandro Volta used copper, zinc, and salt water to create a device that could reliably turn chemical energy into electrical energy. Batteries store and release energy by means of chemical reactions that alter the chemical state of their two electrodes, the anode and the cathode. Ions are sent from anode to cathode through an electrolyte inside the battery, while electrons

are forced to travel through a wire outside it, where they do work like lighting a bulb or powering a car. In rechargeable batteries, the original chemical state of anode and cathode can be restored by applying an external voltage between the electrodes, reversing the chemical reactions and allowing the battery to be reused.

The first rechargeable battery was the lead-acid battery. Invented in 1859 and by the turn of the century used in telegraph machines, streetcar systems, and electrical lighting substations, lead-acid batteries are relatively heavy and low voltage but cheap and dependable. Many of the earliest cars ran solely on these batteries, but a lead-acid battery can't compete with the internal-combustion engine for speed or driving range. After the invention of the electric self-starter that replaced the hazardous hand crank, gas-powered cars like Ford's Model T became safer and more practical. Lead-acid batteries were relegated to just starting the gas engine, and all-electric cars all but disappeared from American roads.

But by the 1960s, smog had engulfed several US cities and oil shortages in the early 1970s sent gas prices shooting up—along with concerns about American dependence on imported fuel. Even before the oil crisis of 1973, American consumers seemed ready to try battery-powered vehicles again; by 1972 General Motors, Ford, Chrysler, and American Motors (and automakers in Germany and Japan) all had electric cars in the works.

Meanwhile the US government began to increase funding for research into renewable energy and energy efficiency technologies. It was becoming clear, Goodenough wrote in his autobiography, "that our dependence on foreign oil was making the country as vulnerable as the threat of ballistic missiles from Russia."

Goodenough was one of the scientists invited to monitor a 1966 breakthrough at Ford: a sodium-sulfur car battery that inverted the lead-acid design. The molten sodium anode and

molten sulfur cathode, coupled with a solid ceramic electrolyte, formed a battery that was both lighter than, and had 15 times the energy density of, a lead-acid battery; it could power a car for up to 82 miles on a single charge. The battery was ultimately deemed impractical for use in automobiles—the molten electrodes meant it operated at 300 degrees Celsius—but the experience introduced Goodenough to electrochemistry and ignited his interest in battery science.

Ford's breakthrough inspired other scientists too, at a time when federal and corporate money was pouring into battery research. One of the first completely battery-focused research departments was at UChicago-affiliated Argonne National Laboratory, and among its first tasks was trying to improve on the same type of high-temperature batteries as the one Ford had developed. Especially after the 1973 oil embargo, the problem was clear and there were "lots of people looking for the answer," says Argonne senior scientist and University of Illinois at Chicago physics professor George Crabtree, who now directs Argonne's next-generation battery research.

About the same time, however, the Air Force funds supporting Goodenough's work at MIT Lincoln started to dry up; Congress had decided that research financed by the armed forces should have practical military applications, and energy research didn't fall into that category. Goodenough began exploring his options, including an offer to start an energy institute in prerevolutionary Iran. He—and his wife, Irene, whom he met and married while at UChicago—were relieved when he was also invited to head the inorganic chemistry laboratory at Oxford University. In 1976 he joined the Oxford faculty and turned his attention to electrochemistry, including batteries.

That same year, Exxon patented the world's first lithium-based battery, designed by M. Stanley Whittingham. Lithium is the lightest metal on the periodic table, and its positive ions conduct well in the battery's organic liquid electrolyte. The low weight and large voltage capacity of Whittingham's battery, together with the fact that it was designed to work at room temperature, made it a major breakthrough. However, as the battery charged and discharged, the surface of the lithium metal anode became rough, eventually spawning long narrow fingers, or dendrites, of lithium. These grew across the electrolyte and, when they touched the cathode, caused internal short-circuits that could make the battery explode.

Goodenough's previous work with metal oxides and ion conduction made him think he could improve on Whittingham's design. Whittingham's battery used a layered sulfide cathode that allowed the insertion and extraction of large amounts of lithium between its layers (a process scientists call intercalation). Goodenough reasoned a layered oxide

OUR DEPENDENCE ON FOREIGN OIL WAS MAKING THE COUNTRY AS VULNERABLE AS THE THREAT OF BALLISTIC MISSILES FROM RUSSIA.

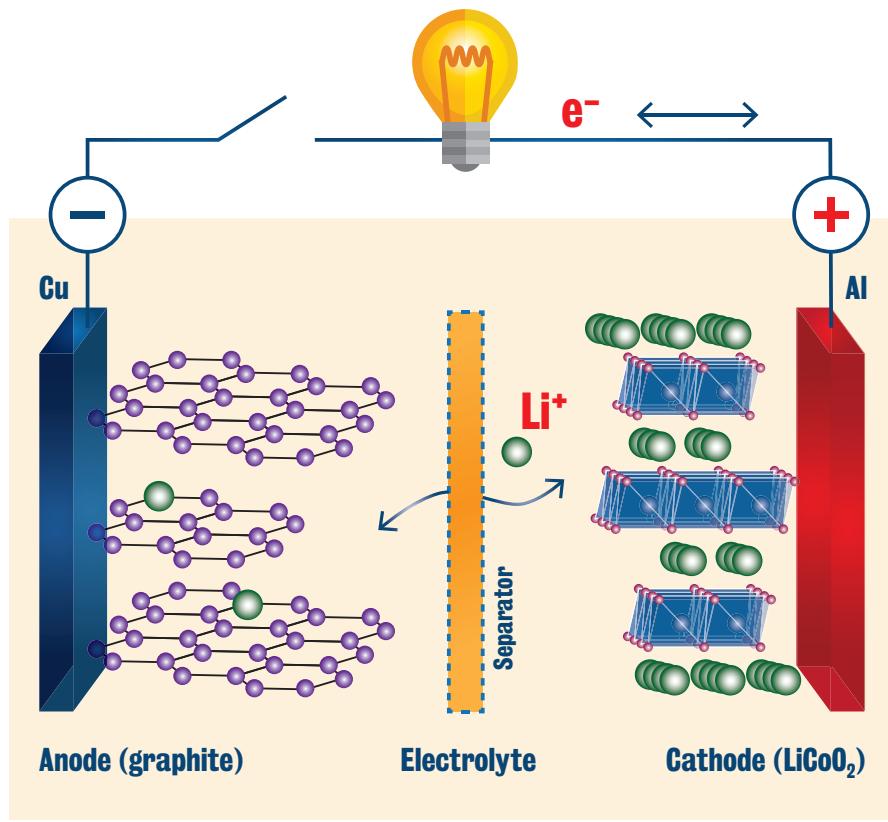
cathode would react similarly, providing a higher voltage that would enable a significantly higher energy density.

In 1980 Goodenough completed his lithium-cobalt-oxide cathode. There was little interest in his innovation at first, he says, because of skepticism about building a discharged battery. Meanwhile, scientists in Japan and Switzerland were showing that lithium can be intercalated reversibly into graphitic carbon, which is also layered. This offered the anode needed to go with Goodenough's oxide cathode. The resulting lithium-ion battery cell safely gave a voltage of 4 volts, compared with 2.4 volts from Whittingham's cell. Moreover, the battery, when made to industry standards with internal safety features, runs a very low risk of overheating and exploding.

Engineers at Sony recognized the potential of the breakthrough. In 1991 they commercialized a battery us-

THERE WAS LITTLE INTEREST IN HIS INNOVATION AT FIRST BECAUSE OF SKEPTICISM ABOUT BUILDING A DISCHARGED BATTERY.

SCHEMATIC OF A LITHIUM-ION BATTERY



The first commercial lithium-ion battery, featuring Goodenough's lithium-cobalt-oxide (LiCoO_2) cathode, hit the market in 1991. When the battery is charging, positive lithium ions, represented by green circles in the schematic, move from the cathode to the anode. When the battery is discharging (producing the energy that does work like powering a smartphone), the positive lithium ions move back through the electrolyte while electrons (e^-) are forced to travel around the circuit, generating an electric current. Lithium-ion batteries with this same basic design continue to be used in most personal electronic devices.



Thanks to Goodenough, “we now have batteries that power everything from cell phones to electric cars,” said President Barack Obama when he presented Goodenough with a 2011 National Medal of Science.

ing Goodenough’s cathode, which ended up sparking the mobile revolution. With that cathode, Steve Levine wrote in *The Powerhouse* (Viking, 2015), Goodenough “outdid all that Ford, Argonne, and Whittingham had accomplished.”

Goodenough’s original lithium-cobalt-oxide cathode structure is still used in the lithium-ion batteries found in almost all personal electronics like smartphones and tablets. He’s since made several improvements on the technology; batteries using a lithium-manganese-oxide cathode, developed in his lab and refined at Argonne, are now used in many electric cars. His lithium-iron-phosphate cathode, completed in the 1990s, is found in most modern power tools. When he was tinkering with different oxides back at Oxford, Goodenough had no idea of the impact his battery would have. “I just knew it was something I should do.”

The battery and Goodenough’s subsequent improvements on the technology have earned him a host of awards. In addition to the 2011 National Medal of Science, he received the Japan Prize in 2001 and the Enrico Fermi Award in 2009. Organizations from Thomson Reuters to the American Chemical Society have named Goodenough a probable contender for a Nobel Prize.

Goodenough gave away his patents on layered and spinel oxides and the value of the patent for his olivine oxide was limited by a costly lawsuit, but lost royalties don’t concern

him. He has enough for what matters. When he was named a recipient of Israel’s \$1 million Eric and Sheila Samson Prime Minister’s Prize for Innovation in Alternative Fuels for Transportation last October, he used his share to help fund his lab’s research. And he recently endowed a scholarship at UT–Austin in memory of his wife, Irene, who died in January.

THE VERY BEST LITHIUM-ION BATTERY YOU COULD IMAGINE IS ONLY A FIFTH AS GOOD AS THE VERY BEST LITHIUM-SULFUR BATTERY YOU COULD IMAGINE.

Goodenough moved to Texas in 1986, shortly before Oxford's retirement policy would have forced him out. Thirty years later, he is focused on the kind of pure research he was doing at MIT Lincoln, examining the electronic properties in transition metal oxides and experimenting with superconductivity. The incremental improvements he's been making in the size and performance of the lithium-ion battery bring in funding, says Goodenough, but he's more interested in exploratory, outside-the-box research that will lead to true innovation.

At his age, "you don't have much time left, and you really want to be able to solve the problem," says Goodenough. "And I think we're on the cusp of being able to do it."

Goodenough is an adviser of the Argonne-led Joint Center for Energy Storage Research (JCESR), the Department of Energy–funded collaboration dedicated to improving battery technology and finding new energy storage technologies. **Matthew Tirrell**, deputy laboratory director for science at Argonne and the dean and Pritzker Director of UChicago's Institute for Molecular Engineering—a partner in the JCESR project—recently sat in on a JCESR advisory board meeting with Goodenough. "He had the most insightful, and probably the most numerous, suggestions for JCESR," says Tirrell. He "has a kind of insight and intuition into inorganic materials science that is really incomparable."

That deep knowledge, coupled with a willingness to work outside traditional disciplines, is needed to make the next big step beyond lithium-ion technology, says Tirrell. IME, which works on real-world applications of molecular-level science, has chosen energy storage and harvesting as one of its five main areas of focus. Because most modern batteries contain inorganic electrodes, organic electrolytes, and in some cases polymer separators, battery development requires expertise from different fields. At UChicago "we have experts here now on electronic materials, electronic structures, and transport materials, as well as inorganic materials," says Tirrell—all the elements needed to make a better battery.

The impact would be significant. Electric grids and transportation together account for about 70 percent of total US energy use. It's possible that one day all this energy will come from clean electric sources channeled through batteries, but it will require a dramatic breakthrough in battery technology, says Crabtree, JCESR director and Argonne senior scientist. Practical, affordable electric cars and large-scale storage for electric grids would require fivefold improvements in battery performance and cost, demands the lithium-ion battery just won't be able to meet.

"So you have to look for other batteries."

JCESR scientists are experimenting with multivalent ions to shuttle more electricity between cathodes, and are working toward the elusive lithium-sulfur battery to make the needed leap. "The very best lithium-ion battery you could imagine is only a fifth as good as the very best lithium-sulfur battery you could imagine," says Crabtree, but significant chemical barriers remain. Technologies like lithium-sulfur batteries may be 10 to 15 years away, Crabtree says. Still, the goal is "definitely within sight."

Like his colleagues in battery science, Goodenough is looking everywhere. "I have learned to be open to surprises," he says, to "not have preconceived ideas or close your mind from listening to what might work." For example, a glass electrolyte brought to him recently by University of Porto engineering physics professor Maria Helena Braga caught his attention, and together they have shown that her electrolyte can be plated or stripped reversibly with metallic lithium or sodium, paving the way for use in a battery. Goodenough is also exploring alternative cathodes for both lithium and sodium batteries. He's optimistic that at least one of the many projects being developed around the globe will lead to an important advance in the next year.

No one's sure where the next breakthrough will come from, "but it's not impossible," Goodenough says. He has faith.

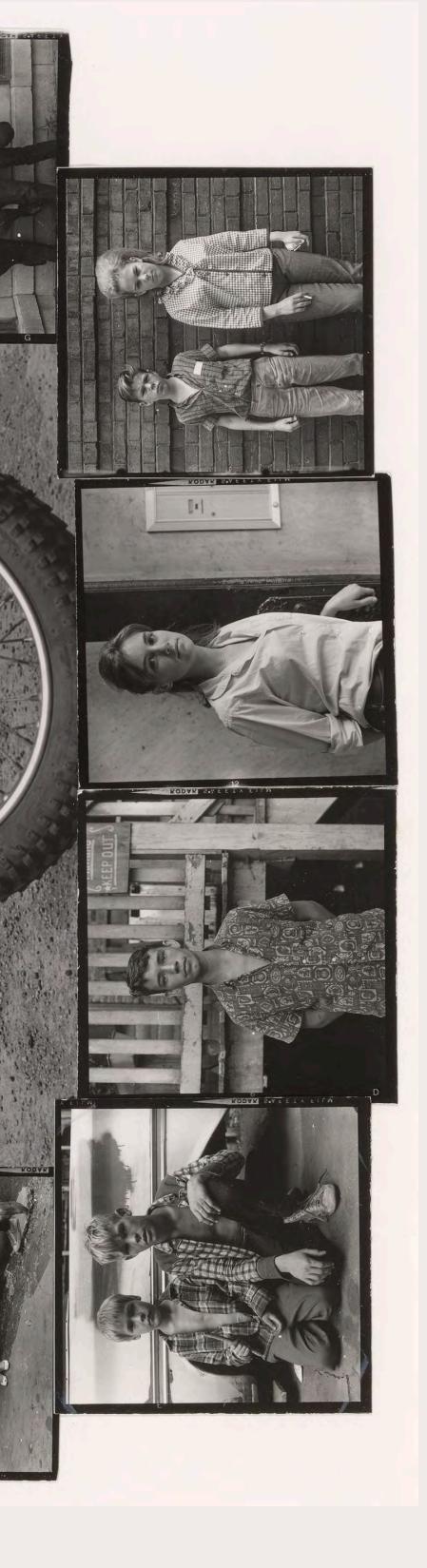
A large tapestry of the Last Supper hangs in Goodenough's lab, and religious artifacts share space in his office with souvenirs he and his wife collected over years of world travel. Goodenough's father was a professor of the history of religion and as a student at Groton, where the headmaster was a proponent of "muscular Christianity," he was expected to attend religious services regularly. But he didn't fully embrace his faith until one night at Groton, when a dream helped him "get the metaphor," he says. "I understood: God is love."

"Of course that's what [the Bible] says all the time," he says. "But it was the first time I experienced the love and I almost jumped out of my bed, I was so excited."

The feeling has stayed with Goodenough for more than eight decades. It's at the foundation of his work with batteries and his current quest for a superbattery. This is how he's loving his neighbor, and his God, he says—by using his talent and working with his colleagues to create something that could help safeguard the planet and improve people's lives.

But really, he adds, that's what scientists do. "They want to understand nature so they can serve it. And they want to understand nature so they can, in conformity with nature, do something for their fellow man." ♦





The iconic photographs of Danny Lyon, AB'63, document more than 50 years of social change and life outside the mainstream.

photography

PERIPHERAL VISION

BY CARRIE GOLUS, AB'91, AM'93
PHOTOGRAPHY BY DANNY LYON, AB'63

In the summer of 1962, **Danny Lyon**, age 20, packed a Nikon Reflex and a Leica camera into an army bag and hitchhiked south on Route 66, because that was “the road Jack Kerouac used,” he wrote in *Memories of the Southern Civil Rights Movement* (University of North Carolina Press, 1992). The photos Lyon took, now so familiar—separate drinking fountains, sit-ins at whites-only lunch counters, protesters being beaten by police—shocked the North and became an enduring record of the civil rights struggle.

After graduation, Lyon, AB/63, returned to the South to work as staff photographer for the Student Nonviolent Coordinating Committee. SNCC (pronounced “snick”) used his images to create powerful propaganda. A 1962 photo of a fierce-looking Mississippi highway patrolman was transformed into a poster with an added caption: “Is he protecting you?” The photograph and poster are juxtaposed in a late-career retrospective, *Danny Lyon: Message to the Future*, which opened at the Whitney Museum of American Art in New York in June and runs through September 25. The exhibition will travel to San Francisco’s de Young Museum in November and later to Berlin and Zurich.

As the *New Yorker*’s reviewer pointed out, Danny Lyon “has led an improbably adventurous life.” He grew up in a Jewish family in New York City. His father, a doctor, had fled Germany in the 1930s; his mother had fled pogroms in Russia.

A history major at UChicago, Lyon took photos for the yearbook and the *University of Chicago Magazine*, learning to make prints in the *Maroon*’s darkroom under the stairs in Ida Noyes Hall. At the time, UChicago was “a center for radicals and a hothouse of ideas,” Lyon wrote in *Memories of Myself* (Phaidon, 2009). As well as photography, his primary occupation as an undergrad was riding his Triumph motorcycle through the streets of the South Side.

By 1966, SNCC was transforming into an all-black organization, and Lyon was back in Hyde Park. Curious about biker gangs, Lyon asked a mechanic friend if he knew any. It turned out he was a member of the Chicago Outlaws; Lyon joined the gang too. The result was

one of his most famous bodies of work, *The Bikeriders* (Macmillan, 1968), “the original template for what is now a cliché,” according to the *British Journal of Photography*.

Lyon calls himself a “photo-journalist, writer, and filmmaker,” but his process is closer to the participant-observer approach of a sociologist. He doesn’t just befriend his subjects; he becomes enmeshed in their lives for years. His approach worried even gonzo journalist Hunter S. Thompson: “I think you should get the hell out of that club,” he wrote to Lyon about the Outlaws, “unless it’s absolutely necessary for photo action.”

In the late 1960s, Lyon talked his way into the Texas prison system by “bullshitting as fast as I could,” he told *Artforum International*. “I think I implied I was with *Life magazine*”—a publication he despised. With permission from the director of prisons, he documented prison life for more than a year; the only stipulation was that he couldn’t photograph death row or the electric chair. (He photographed “Old Sparky” anyway.) He took pictures of men picking cotton, collapsing of heat exhaustion, being strip-searched. The photos were published in 1971 as *Conversations with the Dead* (Holt, Rinehart, and Winston).

“I want to show that in an unknown room (in a completely blighted area) there is a hidden paradise where the walls hang with the richness of life,” Lyon wrote in his artist’s statement for his first solo

show, at the Art Institute of Chicago in 1966. Since then, Lyon’s politics and aesthetics have remained remarkably consistent. He has photographed undocumented workers in the United States, prostitutes and street children in Colombia, coal miners in China, the Occupy movement.

The Whitney show features not only photographs but photo collages and documentary films. It includes photos from his book *The Destruction of Lower Manhattan*



New Orleans 1968

DANNY LYON

(Macmillan, 1969), an anomalous body of work featuring few people. Lyon documented the city’s oldest buildings just before they were demolished to make space for the World Trade Center and other urban renewal developments. The *New Yorker* review calls these images “the heart of the show”—a strikingly New York perspective. But in Lyon’s expansive, compassionate body of work, a viewer from anywhere could find something that resonates. ♦

Collage on previous page: Self-portrait, Chicago, 1965. Above: Self-Portrait, New Orleans, 1964. Below, clockwise from top left: Haiti, 1987; Powwow (New Mexico, South Dakota, and Arizona), 1997; Occupy Demonstration on Broadway, Los Angeles, 2011.







Above left: *Leslie, Downtown Knoxville*, 1967. In *Memories of Myself*, Lyon published 10 essays with words and images, several named for the places where he took the photographs. This photo is part of "Knoxville." / Above right: A burner is lifted to cut the bolts in the cast-iron front of 82 Beekman Street. The cast iron is then smashed to pieces with a sledgehammer. 1967. "I came to see the buildings as fossils of a time past," Lyon wrote in *The Destruction of Lower Manhattan*. / Right: *Pumpkin Renée, Galveston, Texas*, 1967. Pumpkin Renée was one of four female impersonators Lyon befriended and wrote about in "Galveston," an essay in *Memories of Myself*. / Below, left and right: Weight lifters, Ramsey Unit, Texas, 1968, and Shakedown at Ellis Unit, Texas, 1968, appeared in *Conversations with the Dead*.





elections

VOTE OF CONFIDENCE

A start-up founded by three alumni helps voters think beyond the presidential race.

BY SUSIE ALLEN, AB'09



Printelect
www.printelect.com



R

unning for office is no small feat. There are hands to shake, funds to raise, questionnaires to fill out, platforms to build, endorsements to earn, and babies to kiss.

But candidates for the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago carry an added burden: many voters have no idea who they are or what the Metropolitan Water Reclamation District does.

Todd Connor, MBA'07, was prepared for that less-than-glamorous reality when he ran for water reclamation district commissioner in the 2010 Democratic primary. "You know, I had heard these things, like 'It's really hard to win' or 'It's all about ballot position,' but I sort of didn't believe it," Connor says. "And I thought, 'Well, it's going to be different for me.'"

"And then," he says matter-of-factly, "I ran and I lost."

Longtime Chicago political columnist Russ Stewart once wrote that the MWRD race comes down to "the uninformed picking the unknown."

That's true in many local races across the country. Part of the challenge for voters, according to **John Mark Hansen**, is that so many American government offices are filled by election rather than appointment. Between national, state, municipal, and special district elections, "you could spend all of your time voting in the US," says Hansen, the Charles L. Hutchinson Distinguished Service Professor in political science and the College. As a nation, he argues, we expect a lot from our voters.

And American voters often don't know enough about the candidates to deliver on these expectations. For the majority of the electorate, "the information they have is information that they receive passively," Hansen says. "It's information that they receive from the media, it's information they receive in conversations with people, it's stuff that they just hear." By October in a presidential election year, he says, many voters have a decent sense of where major-party candidates in national and statewide elections stand on key issues.

But down the ticket? Not so much. Down-ballot races rarely receive significant media coverage, leaving it to voters to actively seek out information on the candidates. Connor isn't joking when he says it's probably easier to run for governor of Iowa than for water reclamation district commissioner in Cook County.

The staggering number of elected officials in the United States (about half a million, according to American University political scientist Jennifer Lawless) and the large number

of decisions voters have to make in any given cycle, has important effects on voter participation. Not only is American voter turnout extraordinarily low, but many voters "roll off"—that is, leave blanks on their ballot—or guess.

In 2012, **Alex Niemczewski**, AB'09, was one of those voters who guessed. She walked into the voting booth, confidently cast her ballot in the presidential race, and quickly got lost in a thicket of judicial retention races, school board candidates, and ballot measures. "There were offices where I didn't know what that person did or could do. ... There were names I had never heard of," she says.

For her next election, Niemczewski wanted to prepare but felt overwhelmed by the task. "I tried to do the research myself," she says, "and it was just so time consuming, and it was so hard to find the information." There was no single resource that provided meaningful information about every candidate on her ballot—so she decided to build one.

This is the origin story of BallotReady, the website Niemczewski founded in 2014 with **Aviva Rosman**, AB'10, MPP'16, and **Sebastian Ellefson**, AB'03. Sitting in a sunny nook in the Chicago Innovation Exchange, BallotReady's current home, Niemczewski explains the project that has consumed her for the past two years: essentially, BallotReady does your civics homework for you, providing free, nonpartisan, easy-to-access information about every candidate and every issue on your particular ballot.

BallotReady started small, launching with a test run in Chicago's April 2015 mayoral runoff election on a budget



AP PHOTO/ATRICKSEMANSKY (PREVIOUS PAGE)

Rosman (left) and Niemczewski hope BallotReady will someday be used in every election in every democracy.



of just \$180. A month later, they won the Polsky Center for Entrepreneurship and Innovation's **John Edwardson**, MBA'72, Social New Venture Challenge, and this June they received a major infusion of capital from the UChicago Innovation Fund. They've also gotten help from the Institute of Politics, where this summer they are entrepreneurs in residence. The team originally planned to cover seven states in the November general election, but they've upped that number to 25.

Niemczewski is soft-spoken, thoughtful, and appears remarkably serene for someone who is working "every waking minute" on BallotReady. Even as an undergraduate studying philosophy, she knew she wanted to found a start-up someday. Still, there's something pleasantly old-school in the way she talks about BallotReady. She does not use the word "disrupt" even once.

Niemczewski didn't have a particular interest in politics before starting BallotReady, but her cofounders Rosman and Ellefson are, she says, "obsessed with elections." Growing up in Boston, Rosman accompanied her father to New Hampshire during presidential primary season and once flew to Florida to canvass for a candidate. She's been a candidate herself: Rosman won election to her neighborhood's local school council in 2014, not long before BallotReady was founded. Niemczewski and Rosman recruited Ellefson, whom they knew to be a political aficionado, that summer. Over drinks at Jimmy's, the trio settled on the name "BallotReady."

Users provide BallotReady with their home address, which is used to generate a digital copy of their particular ballot. They can compare candidates by selecting an issue ("energy/environment," "foreign policy," "immigration"—the list varies by office), quickly review candidate experience and endorsements, and "save" candidates as they go. A bar at the side of the screen shows voters their

THE MOST IMPORTANT THING FOR US IS THAT VOTERS KNOW THAT WE ARE A TRUSTWORTHY SOURCE.

progress through the ballot, which feels "so satisfying," Niemczewski says. On election day, users can print out a list of their candidate selections or access it on a smartphone from the mobile-friendly BallotReady website.

BallotReady's information is assembled by an army of political science student interns at colleges and universities nationwide. During "civic hackathons," they pull information from candidate websites, local news agencies, and endorsing organizations. Niemczewski describes the process as "structured crowdsourcing. ... They're doing very specific tasks, like, 'Here's a candidate's website, tell us where they went to college.'" Each task is repeated by multiple people so it can be verified by BallotReady staff before it goes live on the site. "The most important thing for us is that voters know that we are a trustworthy source," Rosman told *Governing* magazine in March.

By spending time on BallotReady, users can develop a stronger understanding of how their government works, Niemczewski says. "You may not know the job of water reclamation commissioner, but you could see, oh, these are three or six different ideas for how to tackle this problem. And that can help you start to piece together something of an opinion and an idea of how these things work."

While talking to voters about BallotReady, Niemczewski learned just how common her experience in the voting booth was. "Literally everyone has admitted to guessing," she says. "We talked to political science professors here [and] at other universities who admit to guessing—and political reporters."

It's so frequent, in fact, that a robust body of research is devoted to understanding the ways US voters skip and guess their way through the ballot.

A University of California, Irvine, study found that only about half of voters in a 1994 California election completed their entire ballot, avoiding races where they did not feel informed. Some voters do take a stab at unfamiliar contests, us-

ing various heuristics to guide their decisions. A common one is political party. Even when you know little about a particular race, you'll probably vote for your preferred party's candidate.

In a primary or a nonpartisan election, though, you might use other cues. In low-information races, a 1998 University of California, Los Angeles, study found, liberal voters favored female candidates, guided by the belief that women in politics tend to be left leaning. (Younger voters were more likely to pick female candidates as well.)

Historically, ethnic voting has been a powerful electoral force. Chicago lore has it that some candidates changed their last names to sound more Irish, believing that Irish ancestry conferred an advantage on Chicago candidates. There's some truth to that old chestnut. In judicial retention races in Cook County from 1982 to 2002, Irish names offered a small but statistically significant boost of 1.5 percentage points, according to a 2005 study by legal research analyst **Albert Klumpp**, AB'85. Of course, what counts as a good "ballot name" depends on where you live and the office you're seeking. Sam Houston, aspiring attorney general of Texas in 2014? That's a good ballot name.

The order of names matters too. Being listed first increases a candidate's chance of winning by about five percentage points, according to a study by the University of Pennsylvania's Marc Meredith and Northwestern's Yuval Salant. In some cases, the "first-position effect" was enough to change the outcome of a close race. "Our results imply that a non-negligible portion of local governmental policies is likely being set by individuals elected because of their ballot position," Meredith and Salant concluded. Other studies have shown the name-order effect is especially strong in primaries and low-information elections.

For many voters in Cook County, the race for Metropolitan Water Reclamation District commissioner is about as low-information as it gets. Yet the poorly understood agency does essential work: the MWRD is responsible for sewage treatment and flood prevention over a nearly 900-square-mile service area that includes the city of Chicago and 125 suburban communities. Its seven water reclamation plants and 22 pumping stations treat more than 1.4 billion gallons of wastewater each day, and its nine-member board manages an annual budget of roughly \$1.3 billion. In heavily Democratic Cook County, the Democratic primary is the contest—the last time a Republican won a spot on the MWRD board was in 1972.

MWRD candidate Connor grew up in the suburbs of Chicago. He joined the Naval Reserve Officers Training Corps while he was an undergraduate at Northwestern. After graduating, he served two tours aboard the USS *Bunker*



Todd Connor's 2010 campaign slogan was "clean water, clean government." Today he runs Bunker Labs, a start-up incubator for veterans.

Hill. Connor was responsible for ensuring the missile cruiser's compliance with environmental policy, so he knows a lot about water conservation. It frustrated him when he attended a 2009 MWRD board meeting and heard the commissioners spend more time honoring an Eagle Scout than discussing a bond deal. By running, he thought he could make a difference.

As part of his seven-point plan to improve the MWRD, Connor wrote about the need to reform the board's procurement rules and the importance of new waterway disinfection policies. He also wanted to tighten the board's ethics rules; as it stood, a commissioner could accept unlimited contributions from construction firms to whom they later awarded contracts.

Connor has the ability to sound passionate about the traditionally unsexy subject of water management. "This is a board that's managing a multibillion-dollar budget. We ought to have some folks in there who can bring some business acumen and think differently about the problems that we're facing," he says. "I thought it was a great place to have an impact."

In his campaign, Connor followed the model of his mentor Debra Shore, a reform-minded and conservation-oriented MWRD commissioner who won her spot on the board in 2006. Like Connor, Shore wasn't endorsed by the Cook County Democratic Party—traditionally an important, though not make-or-break, endorsement—but ran a spirited campaign that united left-leaning groups across the county. She finished first in the primary with more than 200,000 votes.

Connor did about as well as any political newcomer could, earning the support of key organizations, including the Illinois Sierra Club, and established political figures, such as then-alderman **Toni Preckwinkle**, AB'69, MAT'77; state representative **Barbara Flynn Currie**, LAB'58, AB'68, AM'73; state senator **Kwame Raoul**, LAB'82; and US representative Jan Schakowsky.

Running on a platform of environmental sustainability and government transparency (his slogan was "clean water, clean government"), Connor raised nearly \$100,000—more than any other nonincumbent MWRD candidate and the second-highest total in his Democratic primary.

In a glowing endorsement, the *Chicago Tribune* described Connor as "exceptionally well-versed in MWRD and wa-

I KNOW IT TO BE TRUE THAT PEOPLE GO AND VOTE FOR THESE OFFICES AND THEY JUST DON'T KNOW WHO'S RUNNING.

ter policy issues” and said his background as a naval officer, Chicago Booth alumnus, and management consultant with Booz Allen Hamilton gave him “a superb skills set for a seat on this board.” The *Chicago Sun-Times* and *Daily Herald* endorsed him too.

With key endorsements and a well-funded and smoothly run campaign, Connor seemed at least a plausible contender for one of the board’s three open spots. So it was surprising, even a little dispiriting, to learn he finished fifth of nine candidates, with 10.66 percent of the vote. Turnout was abysmal, with just 26 percent of voters showing up to the polls. If everyone who turned out had voted for three candidates, there would have been about 1.7 million ballots cast in the MWRD race. The combined tally was about 1.2 million.

There are many ways to interpret the election’s outcome—perhaps voters simply found other candidates more qualified or disagreed with Connor’s policies. But Connor has a theory that at least one other factor played a role. In November 2009, with his campaign going strong, he learned his lottery-assigned position on the ballot: second from the bottom. He knew this was bad news, though he didn’t understand quite how bad until he called Shore, who promptly gave Connor her condolences. She told him to look back at previous election results for the water district commissioner race. While it’s not impossible to win from a bad ballot position, it’s also true the second-from-last spot hasn’t been kind to water reclamation board candidates. From 2006 to 2016, not a single Democratic contender has won from that ballot position. In the end, it’s entirely possible the luck of the draw doomed him, or prevented him from doing better.

“I still don’t want to believe that about our democracy, but of course, I know it to be true that people go and vote for these offices and they just don’t know who’s running,” Connor reflects. So they skip, or they guess.

For all the light and heat of presidential campaigns, what’s happening at the state and local level can affect your life just as much, if not more. Officials whose names you may not know make decisions about your property taxes, the school your child attends, the bus you take to work each day, the safety of the water you drink. “In Flint, it’s the water. In Illinois, it’s mental health clinics, it’s policing, the budget,” Niemczewski says.

When talking to voters about BallotReady, she learned many voters are ashamed of their ignorance of local politics. “They know local elections matter,” she says. “They feel a sense of guilt.” Still, one thing can be said of these tail-between-the-legs citizens who are voting for women, or the first candidate listed, or Seamus O’Neill, or leaving blanks: at least they’re showing up to the polls.

At the heart of BallotReady is a hopeful belief that people want to and will do the work of educating themselves—if you make it easy for them. Early signs are promising: the day before the March Illinois primary, BallotReady’s site went viral on Reddit and Facebook. About 64,000 people, says Niemczewski, used the site for that election.

Niemczewski’s grandest ambition is that BallotReady will someday be used for “every candidate in every race in every election in every democracy.” She also hopes it can be expanded to keep voters engaged in politics between elections.

For his part, Connor loves the idea of BallotReady, and he’s met with Niemczewski to offer his insight, both as a former candidate and as a fellow entrepreneur. If BallotReady or something like it had been available when he ran, he thinks it would have helped, “absolutely.”

The work he’s doing today as CEO of Bunker Labs, a start-up incubator for veterans, suits him well, he says. “There’s a lot of freedom to move really fast, which I like. I feel like I’ve always moved at private-sector speed but want to have public-sector impact.”

And, no, he hasn’t ruled out the idea of running for office again. ♦



Learn more about how the Polsky Center for Entrepreneurship and Innovation sparks and supports new ventures like BallotReady at campaign.uchicago.edu/polsky.

medicine

SAFE HARBOR

Poet and retired Navy physician Frederick Foote, AB'80, is helping wounded veterans recover.

BY LAURA DEMANSKI, AM'94

ILLUSTRATION BY TOMÁS SERRANO

On the sprawling grounds of Walter Reed National Military Medical Center is a wooded ravine with a surprising sense of seclusion. Not far from the roads that ribbon the 243-acre campus in Bethesda, Maryland, deer rustle in the brush and the rushing Stony Creek makes gentle music, pushing aside the noise of passing cars. Over the past year, this half-mile-long oasis has undergone subtle changes. Soon it will officially begin a new life as the Green Road, a healing garden for war veterans recovering at Walter Reed and their families.

For six years, **Frederick Foote**, AB'80, has worked to convince US Navy brass and potential donors of the recuperative properties of this tiny haven. Nature, Foote says, is a potent reminder to combat vets that “all is not trauma”:

that “there’s rebirth and regeneration.” It’s a project the retired Navy doctor has pursued almost sleeplessly: gathering partners, organizing fundraisers, chipping in proceeds from his book sales, greasing the bureaucratic wheels. The Green Road will open September 26, boasting a restored streambed; pavilions for gatherings, small performances, and commemorations of fallen comrades; and a wheelchair-safe path that connects two facilities at Walter Reed where recovering veterans live with their families.

The Green Road and the access to nature it provides to those vets are part of a larger shift in health care for the war wounded. The hallmark harms suffered by servicemen and servicewomen in Iraq and Afghanistan—post-traumatic stress disorder and traumatic brain injury, in many cases from blast impacts—have recalcitrant, elusive effects on both body and psyche. Conventional medicine, Foote has long believed, is insufficient to address them.





The Green Road site in May 2016, during construction to install a wheelchair-safe path and restore an eroding streambed. The site on the Walter Reed National Military Medical Center campus will officially open September 26.

Now, it appears, the armed services believe it too. The military has become, Foote says, “the nation’s biggest user of holistic medicine.” At Walter Reed, the nation’s largest military hospital, injured vets in the National Intrepid Center of Excellence (NICoE), a traumatic brain injury clinic, receive acupuncture to help with their pain alongside advanced brain imaging to diagnose their injuries. They take classes in art and music and writing in addition to physical therapy. Some live at Walter Reed together with family members. And soon they will have access to the Green Road and its solaces.

The integration of holistic approaches has been embraced not just at the NICoE but at other Department of Veterans Affairs facilities. These supplement rather than replace surgery and pharmaceuticals, the mainstays of traditional care. Holistic treatment is relatively cheap to provide and has been shown to improve medical outcomes in complex cases. Of the \$1.4 million Foote raised for the Green Road, some \$250,000 will support research through 2017 to quantify the effects of nature on the health of the battle wounded.

THE MILITARY HAS BECOME “THE NATION’S BIGGEST USER OF HOLISTIC MEDICINE.”

The opening of the Green Road next month will close this phase of Foote’s career—15 years studying the practice and effects of holistic care and the past 10 or so also doing the legwork and persuasion to get such care put into practice. After the ceremony, he’ll return full time to the vocation he once thought would be a lifetime pursuit: poetry.

Rangy and wired behind his thick mustache, Foote is an easy, riveting storyteller. He laughs a lot, not least at himself, and catches you up in it. About war and its casualties, he is sad and serious, resigned to the necessity of human conflict as a road to justice but hopeful the future will hold a different way of conducting it.

On and off for the past 40-plus years, Foote has been in and around the Navy—first as a medical corpsman, in recent years as an advocate for the war wounded and their needs, and in the long middle as a Medical Corps commander and neurologist who was deployed during Operation Iraqi Freedom. Through it all, Foote never stopped thinking about the line and verse and meter that still had the air of a true calling.

At 62 Foote published his first book of poems. *Medic against Bomb: A Doctor’s Poetry of War* (Grayson, 2014) was wrought from his experiences tending to US and Iraqi wounded in 2003 on the Navy hospital ship *Comfort*. Recognized with multiple awards, the book gave voice to Foote’s mixed emotions as a longtime Navy doctor and, increasingly, an outspoken pacifist. One poem, “The Hurt Fedayeen,” recalls treating an Iraqi soldier: “We shot him through the chest, and now we’re saving his life; / it seems absurd, but



that's what Americans do—/blow a place apart, then put it together again,/ pretending it's good as new."

War medicine, Foote says and the poems make harrowingly clear, "is horrible." And a paradox: "It grinds you down. You do brilliant work. You're at your best. You do miracles you never thought you could do. But the tide of ruin is so great. It's like you threw a cup of sand in the ocean."

An Army kid, Foote seized on Robert Frost at 12 or 13, after reading around for a year or two in his mother's poetry anthologies. Dylan Thomas captured his imagination next, then T. S. Eliot: "That's probably how poetry flamed up in me really loud, about age 15, 16." Around the same time, he contracted appendicitis that turned dangerous after being misdiagnosed, and spent three shattering weeks at Bethesda's National Naval Medical Center on a ward with "39 shot-to-pieces Marines."

His "pity for wounded soldiers and the victims of war all started at that hospital, right on the ward, in 1967," Foote says. "And it drove my whole medical career." He went off to Middlebury for a year at 18 but left "to find myself." He also swore off writing poetry, which dredged up intense emotions that felt connected to his identity crisis.

Foote worked in Ireland for 18 months, then, with his eye on going back to college later on the GI Bill, joined the Navy as a hospital corpsman. Stationed in Italy for four years, he immersed himself in ancient literature and philosophy. "That's where a lot of this nature stuff comes from," he says, and some of his interest in holistic medicine too, which he notes was used by the ancient Greeks. "I spent my weekends in Pompeii, and I was an intellectual sailor," navigating the classics.

After four years of service, he enrolled at St. John's Col-

lege in Annapolis, Maryland. But the dream of being a doctor had taken hold, and the school's inflexible great books curriculum wasn't going to prepare him for that. So Foote transferred to the University of Chicago, chained himself to his books ("I lived in the Reg.... I had food caches there."), and studied his way into Georgetown medical school.

Feeling the absence of writing in his life, he tested the waters during a leave of absence from Georgetown, but wound up writing prose instead. Years later when he was chief resident at Yale School of Medicine, "poetry just kicked in the door and took possession of my room and never left." Foote returned to the Navy, planning to serve 10 years and then retire to write poetry full time. Instead—among other destinations—he ended up on *Comfort*.

Comfort and its sister ship, *Mercy*, were originally supertankers. The Navy purchased them and converted them into massive floating hospitals that launched in 1987 and 1986, respectively. They have 12 operating rooms and 1,000 beds each, including dozens for intensive and emergency care. "They were built to handle World War III, basically," Foote says.

The ships have been used mostly for humanitarian relief in the wake of natural disasters like Hurricane Katrina and the 2010 Haiti earthquake. In September 2001 *Comfort* was deployed to Pier 92 in midtown Manhattan with the expectation it would treat people hurt in the attack on the World Trade Center. There were so few survivors that it was used instead to house out-of-town relief workers who had traveled to New York to help out.

WE WERE EXPECTING AMERICAN CASUALTIES. NOBODY HAD THOUGHT THERE WOULD BE ANY IRAQIS.

In 2003 Foote was one of 1,000 Navy medics who were on *Comfort* in the Persian Gulf. “We were expecting American casualties,” he recalls. “Nobody had thought there would be any Iraqis.” But about 200 Iraqi men, women, and children were treated in addition to more than 450 US patients. “We weren’t prepared at all. We had one translator on the ship who knew Arabic, and we had one Koran on the whole ship.”

The Koran was a parallel Arabic and English text that Foote had brought to study on his own but gave to the ship’s Iraqis. Women and children had their own ward, and one part of *Comfort* housed wounded prisoners of war. “We were healing the enemy, and that was very difficult,” Foote says. “Emotionally you had to really get used to it.”

After 10 weeks, the Iraqi patients were transferred to more permanent camps and facilities. By then “it was really kind of an emotional farewell,” Foote recalls. “We’d all learned some Arabic, they’d learned some English, and they pretty much felt we had taken care of them like our own family.”

“Medics hate war,” he says. “It’s just shattering horrible destruction. On the other hand, we’re members of the military, and it’s our job to fight our nation’s wars. So for many of us what it comes down to is you hate the war, but you love the warrior.”

That love is palpable in *Medic against Bomb*, even as the poems lay bare the devastation Foote witnessed, in a style reviewers have compared to Homer, Kipling, and Tennyson. The first section, “Contact,” dwells on the efforts of American doctors and Iraqi patients to understand each other and on the human wreckage surrounding them. The poems in “Battle Fugue” recreate the chaotic immediacy and minute-to-minute sensory input of combat and triage.

“Ruins of Peace,” the closing section, turns to the after-maths of war, psychic and bodily. It includes “Rock Creek PTSD,” in which a wounded vet regards a long-loved creek through new eyes. The poem begins:



Rock Creek tumbles as
daylight ends, its water pours
over straits and bends,
flinging its way through
spouts and flumes,
as human
fortune collides with doom.

Tumult issued in
roaring sounds
clears the mist as
the rush tilts down
to freezing deeps and
pernicious bogs,
bleakly featured with fallen logs.

*You soothed my suffering mind before,
and how I wish
you were not transformed,
turned so fatal
in each detail,
your clean bright energy leached
and paled.*



Foote, second from left, has spent the past six years garnering support for the Green Road, including bringing prospective partners to see the site for themselves. In May he showed around architects from Eisterhold Associates who are also working on healing gardens for Walter Reed and other military hospitals.

For the previous four years he and his Epidaurus colleagues had been studying how hospital structures themselves could contribute to recovery. “I just took all that. I stole it all and threw it at the Navy,” Foote says. Getting in at the planning stage meant he could advocate for “healing buildings”—with clean air and water, nontoxic materials, and pristinely quiet rooms, one per patient to lower the incidence of infections. The hospital should provide space for family members to sleep in the same room with patients. “And bring in art and nature,” Foote says, “because that really reduces stress and improves outcomes.”

When it opened in 2011, Foote says, Fort Belvoir Community Hospital was the most advanced example of evidence-based design in health care. The hospital’s generous windows let in a flood of light and look out on trees and sky. Its creative arts therapy program is supported by the National Endowment for the Arts, like that at the NICoE before it, which was started by Foote (informally at first, he says, “largely just with the nurses’ permission”).

When patients are discharged, the NICoE reports, the treatments they most want to continue include yoga, acupuncture, and mind-body skills. Those who have taken advantage of the holistic care options say they have more control of their pain, are able to decrease or stop their medications, and are less anxious, less irritable, more relaxed, and sleep better.

Foote is also behind the Maryland Network of Arts and Gardens for Veterans, which stems from the Green Road project but promises to serve a far wider population of vets in pursuit of full recovery. The Epidaurus Project continues as part of Baltimore’s Institute for Integrative Health, where Foote is a scholar. And to measure the effects of all this work on vets’ health, he helped develop a set of metrics that are in the midst of being applied, including 12 pilot research projects now under way at Walter Reed, he says.

Foote likes to set things in motion and leave them in capable hands, moving on to his next project. Right now that’s a second poetry book, “Coal Train Poems,” a satirical meditation on American history. After the Green Road opens, “I’m out of here,” he says. “And hopefully nobody ever even remembers my name.” Everything he’s done at Walter Reed and Fort Belvoir is in the name of the soldiers, of whom he writes in *Medic against Bomb*: “I have loved and honored them from my boyhood and always will.” ♦

Rock Creek PTSD” is the photo negative of what Foote hopes the Green Road will represent for men and women like the poem’s speaker. Access to nature is just a small piece of what he’s helped the military do for them. It all began in 2001, when Foote formed the Epidaurus Project. The working group of five doctors, one chaplain, and one medical anthropologist studied how the US Military Health System could integrate holistic care. They wrote statements and pitched ideas to military leaders, some of whom listened. But money was short, and for the first few years their work was largely theoretical.

Then soldiers started coming home from the Middle East with new kinds of battle wounds. The Navy “learned that we couldn’t treat brain injury and PTSD with what we had,” Foote says. “We needed something, and it sort of smelled like some of this stuff we’d been talking about.” In 2005 a Pentagon commission recommended merging the badly deteriorating Walter Reed Army Medical Center with Foote’s workplace at the time, the National Naval Medical Center, to create today’s Walter Reed. A new community hospital 30 miles away in Fort Belvoir, Virginia, was part of the recommendation too. Foote was tapped as an adviser.

legacy

KATHARINE GRAHAM (1917–2001)

Storied publisher of the Washington Post Katharine Graham, AB'38, learned as she went—and made history along the way.

BY SUSIE ALLEN, AB'09

In 1937, four years after Eugene Meyer bought a struggling local paper in Washington, DC, his daughter Katharine considered the life of a newspaper publisher and found little to like. “I damn well think it would be a first class dog’s life,” she wrote to her sister Elizabeth.

After a 28-year career at the top of the *Washington Post*’s masthead, Katharine Meyer Graham, AB’38, saw things differently. In her Pulitzer Prize-winning autobiography *Personal History* (Knopf, 1997), Graham looked back on her work with joy: “I loved my job, I loved the paper, I loved the whole company.”

In her years leading the Washington Post Company, Graham weathered personal and political turmoil and emerged, to her own surprise, as a pioneering figure in the publishing industry. Thrust into leadership when her husband committed suicide in 1963, Graham steered the family company through a nail-biting legal battle over the Pentagon Papers, Bob Woodward and Carl Bernstein’s extended investigation of the Watergate scandal, and labor disputes that engulfed the *Post* in the 1970s. Under her leadership, the *Post* went from what she once called “the fifth newspaper in a five-newspaper town” to a journalism powerhouse that rivaled the *New York Times* in national reputation.

When Graham endured her baptism-by-fire introduction to the business world, female executives were almost unprecedented. Her employees saw her as steely and intimidating, but Graham felt terrible self-doubt in her early years as publisher. She traced her insecurity to “the narrow way women’s roles were defined,” she reflected in her book. “We had been brought up ... to think that we were put on the earth to make men happy and comfortable.” In Graham’s first decade on the job she grew less tentative. When *Newsweek*’s president told her that inviting women to sales meetings would cause trouble, he found himself the target of a flying ashtray.

Graham attributed her adult anxiety to the difficulties of her childhood. Born into economic comfort but emotional deprivation, she saw little of her parents. It was Graham’s

childhood nurse who “supplied the hugs, the comforting, the feeling of human contact.” Much was expected of the Meyer children, who struggled with what Elizabeth called “a compulsion to be terrific”—and a gnawing fear that they would never succeed. In school Graham got by using the same fake-it-until-you-make-it approach she adopted in her early years at the *Post*: “I had to cope with my loneliness, my differences, and become some other person.”

Graham transferred from Vassar College to the University of Chicago in 1936, an impulsive choice occasioned by seeing a photo of Robert Maynard Hutchins in *Redbook*. The dynamic intellectual and political atmosphere suited her, and Graham made fast friends with her fellow International House residents. “‘Fun’ for our group was talk, exchange of ideas, laughter, close-harmony singing, and hours at the college beer parlor, Hanley’s,” she remembered.

In college Graham decided to enter the family business as a reporter. She wasn’t sure she would be good at it, “a gift given by God to a very few,” but she hoped to cover labor issues, “possibly working up to political reporting later.” After graduation Graham spent almost a year at the *San Francisco News* before returning to Washington to work at the *Post* in the spring of 1939.

Her social circle in Washington was filled with young, well-educated professionals like herself—including Phil Graham, a charismatic young lawyer. They married in June 1940.

The young couple shared a playful but sharp-edged rapport. On their honeymoon, when Phil missed an easy shot in a game of tennis, Katharine teased him: “I said, ‘Oh well, they say he has a fine mind.’ Shortly afterward, I missed one. Phil retorted, ‘And they say her family has spent millions on her game.’”

Eugene made Phil his deputy—and ultimately his successor—at the *Post*. It didn’t occur to Katharine, by then a stay-at-home mother of two, to feel slighted. “It never crossed my mind that [my father] might have viewed me as someone to take on an important job at the paper,” she wrote. “The only possible heir would have been a male,” and Katharine’s brother Bill showed no interest in the *Post*.



Katharine Graham addressing the *Post* newsroom during the 1975 pressmen's strike. Graham remembered feeling "as if I were pregnant with a rock" throughout the 139-day ordeal.

PHOTOGRAPH BY LINDA WHEELER/THE WASHINGTON POST VIA GETTY IMAGES

It was an overwhelming job. Phil felt the paper was “a leaky boat” financially when he took over as publisher in 1946. He made several smart acquisitions, including *Newsweek* and the *Washington Times-Herald*, a *Post* competitor. By 1954 the paper was profitable and by the early 1960s its daily circulation had more than doubled to 400,000.

What might have been a happy time for the Graham family was overshadowed by Phil’s increasing drinking and moodiness—problems that had emerged during his Army service. At the time little was known about bipolar disorder and few treatments were available. Katharine did her best to cope with Phil’s breakdowns and erratic behavior, but the illness gradually overtook him. When in the summer of 1963 Phil shot himself at the family summer home, it was Katharine who discovered his body.

In the face of staggering grief, Katharine Graham went to work. At the time she did not see herself as the Washington Post Company’s true head, but as a temporary stand-in

until one of her children could take over. She soon realized that “nothing stands still.” She could not be a silent figure-head—she would have to lead. “I am quaking in my boots a little but trying not to show it,” she wrote to a friend.

She began hiring new leaders and executives to improve the *Post* and grow the company. One addition was *Newsweek*’s Washington bureau chief Ben Bradlee, who told Graham he would “give his left one” to be managing editor of the *Post*. That level of sacrifice was not required, and he took the position in 1965. Graham and Bradlee became a powerful duo, united in their determination, as Bradlee put it, “that a *Washington Post* reporter would be the best in town on every beat.”

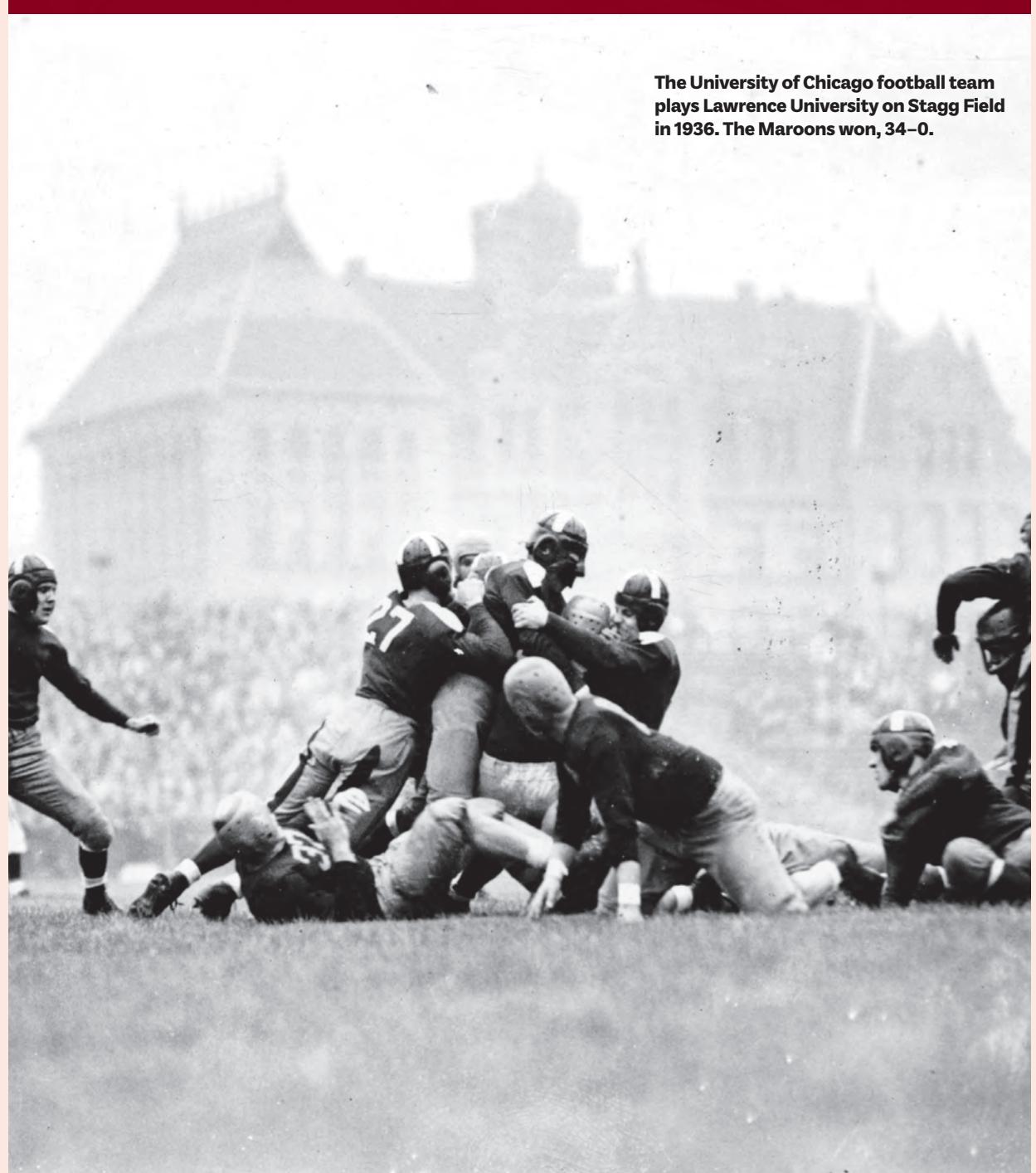
Their bond was cemented in 1971 during a debate about whether the *Post* should print the so-called Pentagon Papers, a classified history of US involvement in Vietnam. The *Post* had obtained a copy of the document after the *New York Times* was enjoined from publishing it in full.

Notes and Releases, **56** Alumni News, **58** Advanced Degrees, **73** Deaths, **76** Classifieds, **79**

peer review

The University of Chicago football team plays Lawrence University on Stagg Field in 1936. The Maroons won, 34–0.

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Damn your meddling ways

BY WAYNE SCOTT, AB'86, AM'89

There is a pleasure from learning the simple truth, and there is a pleasure from learning that the truth is not simple.
—Wayne C. Booth, *The Rhetoric of Fiction* (1961)

As we prepared for our visit to campus, my 17-year-old daughter and I got into a disagreement.

"I want to be dropped off," she informed me. As if this were an innocuous visit to a school friend's, or to any college campus. "I don't even want you to stay on the South Side."

"Oh, but I'd like to see the campus with you."

"You know what it looks like," she said, in that cool tone that means: No arguments. "I don't want you going with me to any more college visits."

I was crushed. For the last year or so, I had been talking to my comrades in the parenting trade and poring over articles and books (*Excellent Sheep, College (Un)Bound*, and, of course, *Colleges that Change Lives*), as well as copious lists claiming to catalog "the best." How to explain to her that strain of parental adoration: when you want to target them with the firehose of your powerful opinions about everything?

She reminded me of a visit to a sleepy Wisconsin college town. The rules had been negotiated. Even though I was under instructions to offer no commentary, to ask no questions, afterward I was accused of "opinionated facial expressions."

I had sealed my own fate.

One outcome of our disagreement

was a decision that her brother, 15, would accompany her. She wanted a sounding board who was not me, and he would be applying to college in two years anyway. After much discussion, it was allowed, because of transportation logistics, that I could stay on campus if I stayed out of view. At the steps of Rosenwald Hall, where two dozen young people gathered, many with their parents, I said goodbye.

Gazing up at the spread of ivy reaching the gargoyle, the gothic towers and up-to-the-sky archways, I wandered, nursing a grudge, searching for the madeleine that might release a torrent of consoling nostalgia. On any return, I explore the little neighborhoods that make up the campus. I surrender to a wash of recollections, all of them unbidden, many of them surprising, not all of them pleasant, but enjoyed nevertheless because of the temporal distance. They are no longer one's own experiences, but those of a character in a bildungsroman in one's own head. Every turn down a path, every room, is like turning the page of a new chapter. Oh, and then that happened.

I had fantasized that my children's experiences in Hyde Park would be an unexpected next chapter in a book that I had not wanted to stop reading.

I camped out on the C Bench. As a college student I used to lounge

there after class with a friend, gossiping, appraising students exiting Cobb Hall, exchanging whispered comments, but pretending to have deeper conversation. Now, as a middle-aged adult, I found myself musing on whether today's students were better looking than we were 30 years ago, and I lost myself in this question, a bit of a koan, until I was startled by the sound of a tour guide's voice. My children might, I realized, have glimpsed me eyeing undergraduates.

I am the embarrassing monster they dreaded I would become.

While the tour guide pointed to Classics, Wieboldt, and Goodspeed, I ducked my head but made the mistake of peeking above C Bench. My daughter was oblivious, her attention razor focused on the undergraduate docent pontificating on the lawn. But my son, designated bodyguard against parental narcissism, spied me spying him, and his eyes narrowed:

Damn your meddling ways.

They moved on.

Continuing my solitary search, I found myself wandering through Harper Library. The high ceilings

I am the embarrassing monster they dreaded I would become.



had always had an irresistible soporific effect. Then I was in the café where I had worked. To this day I don't know why I longed for any other vocation. Next I found myself drifting up the steps of the west tower of Harper Library, an ascent imprinted in memory with trepidation, then and now. I had not returned to this place in the 10 years since Professor Wayne Booth died.

Professor Booth had occupied a singular place of honor in my mind. Other than my father, he was the only other Wayne I had ever met. Unlike any of the well-known Waynes, he was not a serial killer or a baby-faced crooner. He had white hair; a white beard; a long, handsome face; heavy, dark-framed glasses; a ubiquitous turtleneck. In his writing, as in his speech, he relied on an elegant form of punctuation—the em dash—which to this day I cannot use without hearing the gentle cadence of his conversation, the ways he layered observations when he talked about poems and stories.

One afternoon, early in my freshman year, I had arrived in his book-

lined office for our weekly writing tutorial group. Surprised, he apologized for mistaking the time and not being prepared. We arranged chairs for the other four first-year students and then marveled when they never showed. I felt betrayed. How could they stand up Professor Booth? Damn their apathetic souls.

"I guess we'll spend the hour on your paper," he said. Outwardly I stared back blankly; inwardly my stomach rolled.

We were reading Yeats's "Sailing to Byzantium." I thought I had nailed the interpretation.

*Caught in that sensual music all neglect
Monuments of unageing intellect.*

Our time together was the longest hour of my life. To this day, every strand of wisdom he offered me comes back whenever I write anything. "In terms of the mechanics of composition, you're a solid writer," he offered, leaning in with intense focus. "But you play it too safe. You're not delving into the really messy complexity of this poem."

You need to take risks. That's what makes a piece of writing rich."

An hour later, the other four students arrived, at the actual scheduled time.

I blanched, as if I had been caught shoplifting something precious. Had I really insisted that I had the time right? Really?

Professor Booth welcomed the four students. We spent another hour discussing their papers. It was as if I had made no mistake, that I had deserved the gift of that time.

Midway up those stairs of the west tower, I paused, a 50-year-old man, timid as the first-year student I had been, realizing that at my age I was only a few years younger than Wayne Booth had been in that recalled moment. More than lectures or books or classroom discussion, as an undergraduate I learned through experiences of dissonance. Potent as the deep, hot, red-faced embarrassment I felt in that moment, there was an insistent grace. His deference to my wrongness, his implicit forgiveness, made him larger, more powerful.

I turned around. I descended the stairs. I didn't want to see anyone else in that office.

Returning to Rosenwald Hall, I watched my daughter and her bodyguard linger as the docent talked up the school. I stayed about 20 feet away—it was, after all, the time we had agreed I would return to them—and gave them a respectful distance. From the ground, I could see the windows high in the west tower and I imagined the distant view of me, nervous father of teenagers, from that particular window, where for so many years the other Wayne might have contemplated the landscape of students wandering to and from their teachers. Without comment or question, I rejoined my children. We strolled over to the Medici for vanilla and chocolate milkshakes. They were proclaimed—through no editorial prompting of mine—the best milkshakes ever. ♦

Wayne Scott, AB'86, AM'89, is a writer and teacher living in Portland, Oregon. Visit his website at waynescottlcs.com.

NOTES

ACADEMY AWARDS

In May two alumni were elected to the National Academy of Sciences: **Abhay Ashtekar**, PhD'78, the Eberly Professor of Physics and director of the Institute for Gravitation and the Cosmos at Pennsylvania State University, and **Richard A. Friesner**, SB'73, a chemistry professor at Columbia University. Ashtekar, Friesner, and 82 other new members were selected for "their distinguished and continuing achievements in original research."

CONSULTING ON INFINITY

Ken Ono, AB'89, was an associate producer and mathematical consultant on *The Man Who Knew Infinity* (2015), a biopic about early 20th-century mathematician Srinivasa Ramanujan. Ono, a professor of mathematics at Emory University, has long been inspired by how Ramanujan overcame hardship and prejudice to make major contributions in number theory and other areas of mathematics. Ono recently launched the Spirit of Ramanujan Math Talent Initiative, which seeks to find and support gifted mathematicians around the world.

LABOR (ECONOMICS) LEADER

Claudia Goldin, AM'69, PhD'72, won the 2016 Institute for the Study of Labor (IZA) Prize in Labor Economics for her "career-long work



MOVIE LIFE

Indignation (2016), based on Philip Roth's (AM'55) 2008 novel, opened in theaters July 29. Inspired by Roth's own college experience at Bucknell University, the story follows a Jewish student from New Jersey at a conservative Ohio college during the Korean War.

on the economic history of women in education and the labor market." Goldin is the Henry Lee Professor of Economics at Harvard University and the director of the Development of the American Economy Program at the National Bureau of Economic Research. The award will be presented on January 6 in Chicago.

ENTREPRENEURIAL SPIRIT

Ernst and Young 2016 Entrepreneur of the Year regional finalists include **Barclay E. Berdan**, MBA'78, CEO of Texas Health Resources; **Alan D. Rosskamm**, JD'75, CEO of Breakthrough Schools; **Albert M. Green**, AB'87, CEO of Kent Displays (manufacturer of the Boogie Board e-writer); and **Ashish Kachru**,

MBA'06, CEO and cofounder of population health management company Altruista Health.

NEW CREATIVE

Artsy magazine named **Nick Bastis**, MFA'13, to its recent list "30 Emerging Artists to Watch." Bastis, a multimedia artist who incorporates drawing, video, sculpture, and, once, hibernating snails into his work, has had shows this year at Frieze New York and JOAN Los Angeles.

PRESIDENTIAL APPOINTMENT

Centenary College of Louisiana selected **Christopher L. Holoman**, AM'84, PhD'91, as its 31st president. "I am so excited to lead a college with the deep commitment to the liberal arts that Centenary has," said Holoman. He was previously the vice president and provost at Hilbert College in upstate New York. Holoman assumed his new position in July.

LIFETIME ACHIEVEMENT

In March San Francisco's Commonwealth Club presented activist and philanthropist **James Hormel**, JD'58, with its first Champion of Civil Rights and Social Justice award. Hormel, who was the Law School's first full-time dean of students, was recognized for promoting LGBT rights in San Francisco and beyond, including his successful battle to become the first openly gay US ambassador.—Helen Gregg, AB'09



PRESERVED

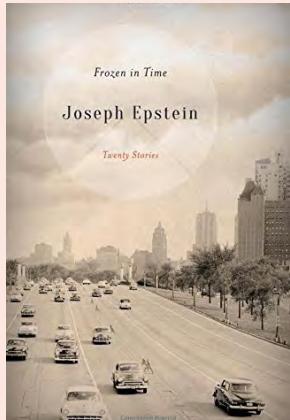
Two fossil taxa have been named in honor of Peter M. Kranz, PhD'72. The *Juditithemys kranzi* was a Paleogene turtle and the *Ceratodus kranzi* (above) was a lungfish from the Cretaceous period. Kranz is a paleontologist at Dinosaur Park, a fossil site and national park in Laurel, Maryland.

RELEASES

The Magazine lists a selection of general interest books, films, and albums by alumni. For additional alumni releases, use the link to the Magazine's Goodreads bookshelf at mag.uchicago.edu/alumni-books.

LISTEN, LIBERAL; OR, WHAT EVER HAPPENED TO THE PARTY OF THE PEOPLE?

By Thomas Frank, AM'89, PhD'94; Metropolitan Books, 2016
A Democrat has occupied the White House for 16 of the past 24 years. So why hasn't the party of Andrew Jackson's populism and Franklin Roosevelt's New Deal done more to help the working class? To **Thomas Frank**, founding editor of the *Baffler*, the problem goes beyond campaign finance laws and political opposition. He argues that the Democratic Party has shifted its commitment from the average American to the corporate, cultural, and intellectual elite, allowing economic inequality to grow largely unchecked.



FROZEN IN TIME: TWENTY STORIES

By Joseph Epstein, AB'59; Taylor Trade Publishing, 2016

Many of the works in writer, critic, and National Humanities Medal winner **Joseph Epstein**'s new story collection are set in his hometown of Chicago. From the struggles of a son who receives an early inheritance in "Remittance Man" to the follies of older men who pursue younger women in "The Viagra Triangle," the tales chronicle love, aging, and the intricacies of urban life.

GHETO: THE INVENTION OF A PLACE, THE HISTORY OF AN IDEA

By Mitchell Duneier, AM'85, PhD'92; Farrar, Straus, and Giroux, 2016
The term *ghetto* has been around since 1516, when the Venetian government ordered its Jewish residents into a quartered-off section of the city. For much of its 500-year history, the word has been used to describe Jewish-inhabited areas of forced separation—a history that helps clarify the word's current use and the confluence of race, place, and poverty in America, asserts Princeton sociologist **Mitchell Duneier**. Focusing on ghettos past and present, Duneier shows how the word and its changing meaning have shaped public policy.

GOVERNING BEHAVIOR: HOW NERVE CELL DICTATORSHIPS AND DEMOCRACIES CONTROL EVERYTHING WE DO

By Ari Berkowitz, AB'84; Harvard University Press, 2016
Nervous systems control all animal behavior, but not all systems govern in the same way. Some have "dictator" neurons that send down orders, while some make decisions democratically with input from many neurons, explains University of Oklahoma biology professor **Ari Berkowitz**. In this accessible overview, Berkowitz explores the evolution of these different systems and how they can coexist within a single animal.

THE GOLDEN CONDOM: AND OTHER ESSAYS ON LOVE LOST AND FOUND

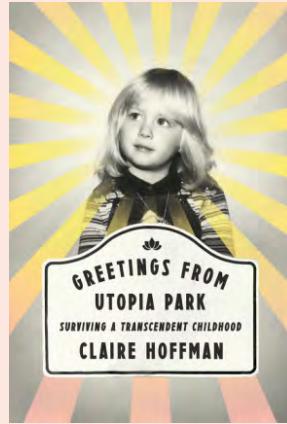
By Jeanne Safer, AB'69; Picador, 2016
Unrequited love, unhealthy friendships, traumatic breakups—we've all been there. In 12 essays psychotherapist **Jeanne Safer** shares her own relationship experiences and memorable anecdotes from other people in her life, including her patients. The collection shows how universal stories like these are, and how entertaining, and liberating, they can be.

LISTEN TO ME

By Hannah Pittard, AB'01; Houghton Mifflin Harcourt, 2016

In **Hannah Pittard**'s third novel, Mark and Maggie are setting out on their annual road trip, shortly after Maggie was mugged at gunpoint and long after their marriage first began to unravel. A fierce storm and chill-

ing encounters with strangers along the way add to the tumult, and the couple is eventually forced to spend the night at a remote, powerless inn. There Maggie's paranoia starts to spin out of control, until another tragic situation allows her to step back into the driver's seat.



GREETINGS FROM UTOPIA PARK: SURVIVING A TRANSCENDENT CHILDHOOD

By Claire Hoffman, AM'05; Harper, 2016

When **Claire Hoffman** is 5, her mother moves her and her brother to Heaven on Earth, the Iowa headquarters of the Maharishi Mahesh Yogi and his Transcendental Meditation movement. The early years are magical, but as Claire grows up, she becomes increasingly skeptical of Maharishi and the costs of enlightenment and flees to her father in California. This memoir chronicles Hoffman's upbringing and how, years later, she returns to the Iowa community to recapture a bit of enlightenment on her own terms.

THE FRACTURED REPUBLIC: RENEWING AMERICA'S SOCIAL CONTRACT IN THE AGE OF INDIVIDUALISM

By Yuval Levin, AM'02, PhD'10; Basic Books, 2016

Nostalgia for simpler, more unified times on both sides of the aisle have left America's two major political parties out of touch with how the country has diversified over the past half century, argues **Yuval Levin**. The founder and editor of *National Affairs*, Levin advocates for embracing this splintering and allowing individual groups and communities to design policies that work for them.

—Helen Gregg, AB'09

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DEATHS

FACULTY AND STAFF

John Angelus, associate professor emeritus of physical education and athletics, died May 12. He was 82. Angelus played minor league baseball and was a corporal in the Army before joining UChicago in 1962 as the assistant coach of the baseball and men's basketball teams. He later led both teams, serving as head baseball coach from 1971 to 1978 and as head men's basketball coach from 1975 to 1991. During his head coaching tenure, the Maroons won a combined 201 games. In 1992 Angelus became the University's director of intramural and club sports, retiring in 2000. He is survived by his wife, Judy; two sons; and three grandchildren.

Elizabeth Butler, AM'46, retired lecturer at the School of Social Service Administration, died May 27 in Chicago. She was 97. Butler worked in several hospitals before returning to SSA in 1959 as a field work assistant professor in the clinical training department. She was later an associate professor and then lecturer, retiring from UChicago in 1983. She joined the SSA Visiting Committee in 1985, becoming a life member, and served on the University's Women's Board from 1986 to 1994. In 1990 SSA established the Elizabeth Butler Award to recognize a recent graduate's contributions to the field of social work. She is survived by her brother.

Abner J. Mikva, JD'51, former Law School faculty member, died July 4 in Chicago. He was 90. One of the few Americans to serve in senior positions in all three branches of the federal government, Mikva, a World War II veteran, was elected to the Illinois House of Representatives in 1956 and to the US House of Representatives in 1968. In 1979 he was appointed to the US Court of Appeals for the District of Columbia, becoming chief judge in 1991. Three years later he joined President Bill Clinton's staff as White House counsel. He then returned to the Law School, where he taught and directed the Mandel Legal Aid Clinic. In Chicago Mikva was a mentor to Barack Obama and launched the Mikva Challenge with his wife to encourage young people to get involved in politics. In 2014 he received the nation's highest civilian honor, the Presidential Medal of Freedom, as well as the University's Benton Medal for Distinguished Public Service. He is survived by his wife, **Zoe W. Mikva**, PhB'47, AM'51; three daughters; and seven grandchildren, including Chicago Booth student **Jake Mikva**.

Robert L. Reoplogle, former chief of cardiac surgery at UChicago Medicine, died May 9 in Chicago. He was 84. Reoplogle was a pediatric surgeon at Boston Children's Hospital before joining the University of Chicago Medicine in 1967 as director of the

congenital heart surgery program. In 1970 he became the pediatric surgery section chief and then cardiac surgery chief in 1973. He received national attention in 1978 for performing a triple cardiac bypass on actor Jackie Gleason and is known for the Reoplogle tube, used in babies with esophageal malformations. He later held leadership positions at several Chicago hospitals and was president of the Society of Thoracic Surgeons while maintaining a private practice. Reoplogle retired in 1998. He is survived by his wife, Carol; two daughters, **Jennifer Bremer**, LAB'85, MD'93, and **Edith Reoplogle Sheffer**, LAB'92; a son, **Robert Edward Reoplogle**, LAB'84, MD'92; and nine grandchildren, including **William Bremer**, LAB'16, and Laboratory Schools student **Joseph Bremer**.

David Tod Roy, professor emeritus of East Asian languages and civilizations, died May 29 in Chicago. He was 83. Born in China, Roy learned to read and write Chinese in high school. He served in the US Army and taught Chinese literature at Princeton University for four years before joining the UChicago faculty in 1967. Roy is best known for his translation of the 3,000-page Ming dynasty novel *Chin Ping Mei*; he started the project in 1982 and the final volume was published in 2013. He was an avid collector of Chinese-language books and by 2013 his collection contained more than 4,000 volumes. Roy retired from the University in 1999. He is survived by his wife, Barbara; and a brother.

Alison Winter, AB'87, professor of history, died June 22 of a brain tumor. She was 50. Winter taught at the California Institute of Technology before joining the UChicago faculty in 2001. Specializing in the history of medicine, Winter also taught undergraduate film and gender studies courses and worked with postdoctoral fellows at the MacLean Center for Clinical Medical Ethics. She continued teaching well into her illness, even participating in an undergraduate seminar via video chat from the hospital. Her book *Memory: Fragments of a Modern History* (2012) won the University of Chicago Press's Gordon J. Laing Prize in 2014. She is survived by her husband, **Adrian D. Johns**, the Allan Grant Maclear Professor of History; two daughters, including Laboratory Schools student **Zoe Johns**; two sons, including Laboratory Schools student **Benjamin Johns**; her parents; her stepmother; two stepfathers; and her brother.

TRUSTEES

Wallace Wray Booth Jr., AB'48, MBA'48, died June 9 in Los Angeles. He was 93. An Army Air Corps veteran, Booth was managing director of the Ford Motor Company's Australia branch before joining Rockwell International as executive vice president in 1968. He later served as CEO of United Brands and then Ducommun Inc. An active philanthropist, Booth

gave to many children's and educational charities and was a past president of the Southern California United Way. A University trustee, he endowed a faculty chair at Chicago Booth. He is survived by his wife, Rosemary; a daughter; a son; a stepson; two granddaughters; a grandson; three great-granddaughters; and two great-grandsons.

Jack W. Fuller died of lung cancer June 21 in Chicago. He was 69. Fuller first worked at the *Chicago Tribune* in high school, returning in 1973 as a general assignment reporter. After serving from 1975 to 1977 as special assistant to US attorney general (and former UChicago president) Edward H. Levi, LAB'28, PhB'32, JD'35, Fuller became the *Tribune*'s Washington correspondent. He was editorial page editor from 1981 to 1987 and won a Pulitzer Prize in 1986 for his commentary on constitutional and legal issues. He was named executive editor in 1987 and became president of Tribune Publishing Company in 1997, presiding over the acquisition of the *Los Angeles Times*, the *Baltimore Sun*, and other city papers. He also published several novels. Fuller retired in 2004. He is survived by his wife, **Debra K. Moskovits**, PhD'85; a daughter; and a son.

1930s

Charles A. Barnes, SB'35, MD'37, of Ponte Vedra, FL, died March 16. He was 103. Barnes completed his internship and residency in Philadelphia before being commissioned into the Army during World War II, rising to the rank of major. After the war he was in private medical practice in Pennsylvania and Ohio for 54 years. He is survived by five children, eight grandchildren, and five great-grandchildren.

LeRoy "Roy" T. Carlson Sr., AB'38, of Evanston, IL, died May 23. He was 100. A World War II veteran, Carlson held managerial and executive positions in a variety of businesses before founding Telephone and Data Systems in 1969. He was CEO until 1986, during which time TDS founded subsidiary US Cellular, and was chairman of the board until 2002. He is survived by his wife, **Margaret D. Carlson**, AM'43; two daughters; two sons; a sister; and 10 grandchildren, including **Anthony Carlson**, LAB'05.

1940s

Sara Hilda Richman Harris, AB'41, died May 15 in Albany, NY. She was 95. Harris cofounded the Center for the Study of Aging in Albany and served as its executive director for more than 50 years. She was active in the Albany Artists Group, served on the boards of the Albany Interracial Council and the Bleeker Library, and founded the Red Cross Friendly Visitor Service. She is survived by two daughters; two sons, **Jonathan Oren Harris**, AB'74, and **Alan Michael Harris**, AB'76; five grandchildren; and four great-grandchildren.

Margaret O. Gulley, AB'42, died May 11 in Chapel Hill, NC. She was 96. Gulley volunteered overseas with the Red Cross during both World War II and the Korean War before becoming the business manager of the University of North Carolina's pathology department in 1957. When she retired in 1990 she was recognized with the C. Knox Massey Distinguished Service Award for her service to UNC. She is survived by a daughter and two granddaughters.

Bernard B. Bell, EX'42, MBA'42, of Chicago, died June 6, 2015. He was 94. Bell was an international financier who helped advise many deals, from the development of hotels in Israel to subways in Venezuela. He is survived by his wife, **Elaine Bell**, AB'42; two daughters, including **Judy Tatar**, MST'77; a sister; five grandchildren, including **Benjamin Freed**, MD'04; and five great-grandchildren.

Margaret Gray Exter, EX'42, died April 22 in Bend, OR. She was 96. Exter spent her early career as a model, later organizing fashion shows for retailers and philanthropic organizations and teaching charm school. She enjoyed swimming and singing and was a devoted member of New Hope Church in Bend. She is survived by two daughters, three sons, 16 grandchildren, and 16 great-grandchildren.

Julian S. Lorenz, SB'42, of Chico, CA, died April 14. He was 94. Lorenz practiced obstetrics and gynecology in Chico before joining the Butte County Health Department as a health officer in the child health and disability prevention program. He sponsored several foreign exchange students from the Middle East and had friendships around the world as a ham radio operator. He is survived by his wife, Betsy; three sons; a granddaughter; a grandson; and a great-grandson.

Susan Keefe Schultz, AB'44, died April 26 in Montecito, CA. She was 93. Schultz worked for Mandel Brothers department store in Chicago before moving to California with her family. She enjoyed travel, golfing, and keeping up with world affairs. She is survived by her husband, University trustee emeritus **Arthur W. Schultz**, AB'67; a daughter; three sons, including **Peter Keefe Barker**, MBA'71, and **Michael Terence Barker**, MBA'84; eight grandchildren; and six great-grandchildren.

James F. Doster, AM'36, PhD'48, died April 15 in Northport, AL. He was 103. Doster taught American history at the University of Alabama for 52 years and was the author of several books on how Native Americans and the railroads shaped the development of the United States. He enjoyed traveling around the world but remained a proud Southerner. He is survived by a daughter, a son, a grandson, and two great-grandchildren.

Janet Benson Kaye, AB'48, AM'67, of Santa Fe, NM, died July 17, 2015. She was 87. Kaye spent most of her career as an elementary and high school teacher. She later

ran a special classroom for students with learning disabilities and won awards for her teaching. She enjoyed skiing with her husband, **E. Donald Kaye**, AB'49. She is survived by Donald; a daughter; and a son, **Michael B. Kaye**, AB'80.

William Alan Black, AB'49, JD'53, of Wheaton, IL, died November 5. He was 86. A US Navy veteran, Black practiced law in Chicago at Russel and Bridwell and later at Bradley, McMurray, Black, and Snyder. He retired in 1996. His twin sister, Anne Funkhouser, AB'49, died in 2010. He is survived by his wife, Joan; two daughters; a son; and six grandchildren.

1950s

Charles M. Harper, MBA'50, died May 28 in Omaha, NE. He was 88. Harper spent 20 years at Pillsbury before joining struggling food company ConAgra in 1974, where he became CEO in 1976. He stabilized and grew the company by acquiring subsidiaries and launching the Healthy Choice line in 1988. Later he was the CEO of RJR Nabisco from 1993 to 1996. Chicago Booth's Hyde Park building is named after Harper in recognition of his landmark 2007 gift. He is survived by three daughters; a son; 11 grandchildren, including **Bregan A. Wherry**, MBA'11, and **Nicholas J. Harper**, MBA'15; and 11 great-grandchildren.

Ida Buccicione Santaquilani, AM'52, of Crown Point, IN, died March 8. She was 87. Santaquilani worked for Warner Brothers in Rome, translating films' voice tracks for dubbing and other production purposes. She later spent 25 years as an English teacher in the Gary, IN, public school system, and taught at Indiana University Northwest and Ivy Tech. She is survived by seven sons, 13 grandchildren, and eight great-grandchildren.

Stanley A. Zahler, SM'49, PhD'52, of Cardiff by the Sea, CA, died April 26. He was 89. An expert in bacterial genetics, Zahler joined Cornell University's microbiology faculty in 1959. He cofounded Cornell's biology and society major and was the associate director of the biological sciences division and chair of the genetics and development section. His work in gram-positive bacteria contributed to modern understanding of how antibiotic resistance genes spread. Zahler retired from Cornell in 1994. He is survived by his wife, **Eleonor Jan Zahler**, EX'52; two daughters, including **Kathy A. Zahler**, MST'77; a son; a granddaughter; and two grandsons.

Gladys Engel Lang, PhD'54, died March 23 in Cambridge, MA. She was 96. A sociologist, Lang taught at several New York universities before joining the University of Washington in 1984 as a professor of sociology, political science, and communications. Along with her husband, **Kurt Lang**, AB'49, AM'52, PhD'53, she was an expert on the media's influence on public opinion and perception, and the couple pioneered the modern political exit poll. Lang retired

from UW in 1990. She is survived by her husband; a daughter, **Glenna Engel Lang**, AB'72; a son; and three granddaughters.

Henry Clinton Maguire Jr., MD'54, died June 11 in Merion, PA. He was 88. After serving as a captain in the Army Medical Corps, Maguire practiced and held appointments at several Philadelphia-area hospitals. His research focused on cancer immunology, and he was a main figure in the emerging field of immunotherapy. He is survived by his wife, Elise; a daughter; two sons, including **Henry Clinton Maguire III**, MD'83; and eight grandchildren.

Theodore King Phelps, MBA'55, died February 17 in Parkville, MD. He was 97. A World War II veteran, Phelps spent 38 years as a telephone systems engineer for Western Electric Company. In retirement he continued his lifelong hobby as a ham radio operator and enjoyed traveling with his wife. He is survived by two daughters, a son, three granddaughters, two grandsons, and three great-grandchildren.

Francis J. Gerlits, JD'58, died April 13 in Boise, ID. He was 85. Gerlits joined Kirkland & Ellis in 1958 and was named partner in 1964. Over his 50-year career in corporate law, he honed pioneering strategies for mergers, hostile takeover defense, financial structuring, and major litigation. Gerlits enjoyed sailing, tennis, hunting, hiking, and horseback riding. He is survived by his wife, Suzanne; three daughters; one son; a brother; two granddaughters; and three grandsons.

Charles Bolton, PhD'59, died January 1 in Portland, OR. He was 94. Bolton taught at Portland State University from 1964 to 1987, where he held dual appointments with the sociology department and the School of Urban Studies. He served twice as sociology department chair and was the acting dean of the urban studies program. Bolton was active in peace, environment, and social justice causes. He is survived by three daughters, nine grandchildren, and nine great-grandchildren.

Walter Perschke, EX'59, died May 20 in Chicago. He was 77. Perschke was a businessman, finance columnist for the *Chicago Daily News*, and a regular guest on PBS's *Wall Street Week*. A coin dealer and numismatist, he was known for owning a 1787 Brasher doubloon, the first gold coin made in the United States. Later he became interested in spirituality, publishing *Conscious Community Magazine*. He is survived by a daughter, three sons, two brothers, and a granddaughter.

David W. Satterley, MBA'59, of Boulder, CO, died March 14, 2015. He was 81. A US Army veteran, Satterley was a computer specialist at American Motors and then an assistant registrar at the University of Wisconsin-Madison. He worked for American College Testing and the Colorado Commission on Higher Education and later was the computer director at the Colorado School of Mines. He is survived by his wife, Fritz, and a son.

1960s

Lydia Cochrane, AM'61, died January 5 in Chicago. She was 87. Cochrane lived in Rome and California before moving to Hyde Park in 1957, where she taught French at the University of Chicago Laboratory Schools and later worked as a translator for the University of Chicago Press. She was active in the Fortnightly and other civic organizations in Chicago. Her husband, Eric Cochrane, a professor of Italian history at UChicago, died in 1985. She is survived by two sons, including **John H. Cochrane**, a distinguished senior fellow at Chicago Booth; and six grandchildren, including **Sally Cochrane**, LAB'07, AB'11, and **Eric F. Cochrane**, LAB'09, AB'13.

Susan J. Tolchin, AM'62, died May 18 in Washington, DC. She was 75. A political scientist, Tolchin founded the Washington Institute for Women in Politics at Mount Vernon College and spent 20 years as a professor of public administration at George Washington University before joining the George Mason University faculty in 1998. She wrote or cowrote with her journalist husband numerous books on topics including women in politics, voter anger, and political patronage. She is survived by her husband, Martin; a daughter; and a grandson.

John F. Keller, MBA'63, of San Mateo, CA, died March 28. He was 91. An Army veteran, Keller worked for the Miller Brewing Company and Hamm's Brewery before joining Heublein's wine division in 1971 as CFO, eventually becoming chairman and CEO. He later held management roles with a number of California wineries and in 1996 conducted a feasibility study on developing a wine industry in southern Russia. A devoted Catholic, Keller was honored as a Knight of Obedience in the Sovereign Military Order of Malta. He is survived by four sons, 10 grandchildren, and four great-grandchildren.

J. Michael Pilz, AB'63, died April 9 in Southwest Harbor, ME. He was 74. Pilz taught at Temple University before joining the faculty of Bucks County Community College in Philadelphia, where he was an English professor for 25 years. In 1999 he retired to Maine and turned his attention fully to hobbies including reading, teaching, cooking, traveling, and music. He is survived by his wife, Marsha.

Lee Arnold Pederson, PhD'64, of Atlanta, died May 6, 2015. He was 84. Pederson served in the US Army during the Korean War, earning two Bronze Stars, before joining the English department at Emory University in 1966. An expert in American lexicography, Pederson published more than 100 articles, reviews, and books, and at Emory developed and led the Linguistic Atlas of the Gulf States project, a record of Southern dialect. He retired from Emory with emeritus status in 2007. He is survived by a daughter, a son, and two grandsons.

William M. Gray, SM'59, PhD'64, died April 16 in Fort Collins, CO. He was 86. An expert on hurricanes, Gray was a professor of atmospheric science at Colorado State University from 1961 to 2005. He was known for creating modern seasonal forecasts for Atlantic storms, and later in life he became a vocal critic of climate change science. He is survived by two daughters, a son, and two grandsons.

William J. Grimshaw, AB'65, of Chicago, died March 30. He was 77. Grimshaw taught political science at the Illinois Institute of Technology for three decades and was a visiting associate professor at the University of Chicago. Deeply involved in Chicago politics, he helped Harold Washington become the city's first black mayor in 1983. He is survived by his wife, Jacky; a daughter, **Kimberly Bolton**, LAB'82; a son, **Christopher Grimshaw**, LAB'94; a brother; and four grandchildren.

Zane Miller, PhD'66, died March 15 in Pensacola, FL. He was 81. A scholar of American urban history, Miller taught at the University of Cincinnati for 34 years, retiring with emeritus status in 1999. The author of many books and coeditor of three history series, he was a founder and later president of the Urban History Association and was involved in local historical preservation organizations. He was an active Democrat and a fan of jazz music. He is survived by his wife, Janet, and two sisters.

Quin A. Denvir, JD'69, died June 3 in Sacramento, CA. He was 76. Denvir served in the Navy and worked at the Pentagon before becoming a criminal defense lawyer. He was a California state public defender from 1978 to 1984 and was appointed federal defender for the Eastern District of California in 1996. An outspoken opponent of the death penalty, he was known for striking the deal that kept Unabomber Theodore Kaczynski off death row. He retired in 2005. He is survived by his wife, Ann; a daughter; a son; and several grandchildren.

1970s

Daniel A. S. D'Ippolito, AB'71, of Erie, CO, died April 3 of pancreatic cancer. He was 66. A plasma physicist, he worked at the FOM Institute; Los Alamos National Laboratory; the University of California, Los Angeles; and Science Applications Inc., before joining Lodestar Research Corporation in 1987. He retired as president of Lodestar in 2016. D'Ippolito was a classical pianist and trumpet player. He also loved hiking; the Denver Broncos, Colorado Rockies, and Colorado Avalanche; books; movies; and philosophical conversations. He is survived by his wife, Nancy, and three daughters.

Karen Hermann Pugh, MST'73, died May 23 in Wellesley, MA, of complications from multiple myeloma. She was 65. Pugh taught children with learning disabilities in Chicago and then elementary school students in Wellesley. Later she was an assistant elementary school principal and volunteered

with several civic and environmental organizations. She is survived by her husband, James; a daughter; a son; and a brother.

Elizabeth Gierowski Kordesch, AB'78, died May 17 in Athens, OH. She was 59. Kordesch was a postdoc at the Freie Universität Berlin before becoming a professor of geological sciences at Ohio University in 1989. She founded the Geological Society of America's limnogeology division and enjoyed organizing science fairs at local schools. She is survived by her husband, **Martin Eric Kordesch**, AB'78; a daughter; and two sisters.

Arthur R. E. Broadbent, MBA'79, of Ridgewood, NJ, died April 15. He was 62. Broadbent spent his 29-year career with J. P. Morgan's investment banking business, where he developed computer programs capable of handling some of the company's most complicated transactions. In retirement he enjoyed spending time with his family and singing in local choirs. He is survived by his wife, Wendy; two daughters; a son; his mother; and a sister.

1980s

Allan L. McCutcheon, AM'77, PhD'82, of Lincoln, NE, and San Juan, Puerto Rico, died May 3. He was 66. An expert on survey research and methodology, McCutcheon taught at the University of Delaware before joining the University of Nebraska-Lincoln in 1996. He was the founding director of the UNL-Gallup Research Center and the founding chair of the school's survey research and methodology program; he was also part of the national team of statisticians who helped news networks make projections during the 2012 election. He is survived by his wife, **Elizabeth Jean Crockett**, PhD'86; a daughter; two brothers; and a grandson.

1990s

Philip Mazzini, MBA'93, of Atlantic Highlands, NJ, died April 26. He was 50. Mazzini served as president of retail tax services at H&R Block and spent 16 years with consumer goods company Reckitt Benckiser. At the time of his death, he was COO of Wichita, KS-based Tiger Financial. Mazzini was a member of St. George Greek Orthodox Church in Ocean Township, NJ. He is survived by his wife, Yannah; three daughters; a son; his mother; a sister; and a brother.

Adrienne Becker Goodman, AM'96, died April 25 in Chicago. She was 67. Goodman was a staffer for the Chicago City Council and later for senator **Carol Moseley Braun**, JD'72. An advocate for LGBTQ rights, Goodman helped pass Chicago's human rights ordinance and campaigned for the city's first openly gay aldermanic candidate. She was elected Democratic committeewoman of the Ninth Congressional District in 1996 and remained active in politics. She is survived by a brother.

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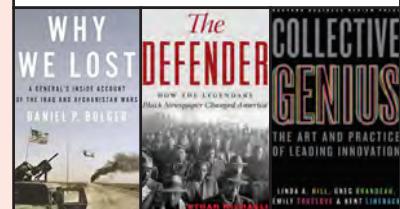
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Photo finish

In the previous issue, we invited readers to capture scenes from Alumni Weekend on Instagram (“Hyde Park Glow,” Spring/16). More than 100 revelers doubled as shutterbugs over those four days. Here are the most original, most beautiful, and most UChicago photos they posted, as determined by the *Magazine* staff. If Alumni Weekend is a chance to relive days past in delight, these images let us relive the reliving.

—Laura Demanski, AM’94



Watch a short video from the #UChiAW performance shown below right at mag.uchicago.edu/acrobat.



Clockwise from top: Moriah S. Grooms, AB’11, wore Walt Whitman’s head for her #UChiAW photo; former Le Vorris & Vox Circus performer Ljubica Popovic, AB’06, captured an acrobat flying high in the Logan Center; Rajay S. O. Lee, AB’15, shared a portrait of herself in front of the interactive chalk wall.

Opposite page: James Yee snapped this picture of alumni emeriti (including his wife, Leah Catherine Condit Yee, AB’56) about to take a group shot at their Friday evening class dinner in the performance penthouse of the Logan Center for the Arts—a room with a view if ever there was one.







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