THE UNIVERSITY OF CHICAGO MAGAZINE

FALL 2016, VOLUME 109, NUMBER 1

THE UNIVERSITY OF CHICAGO MAGAZINE

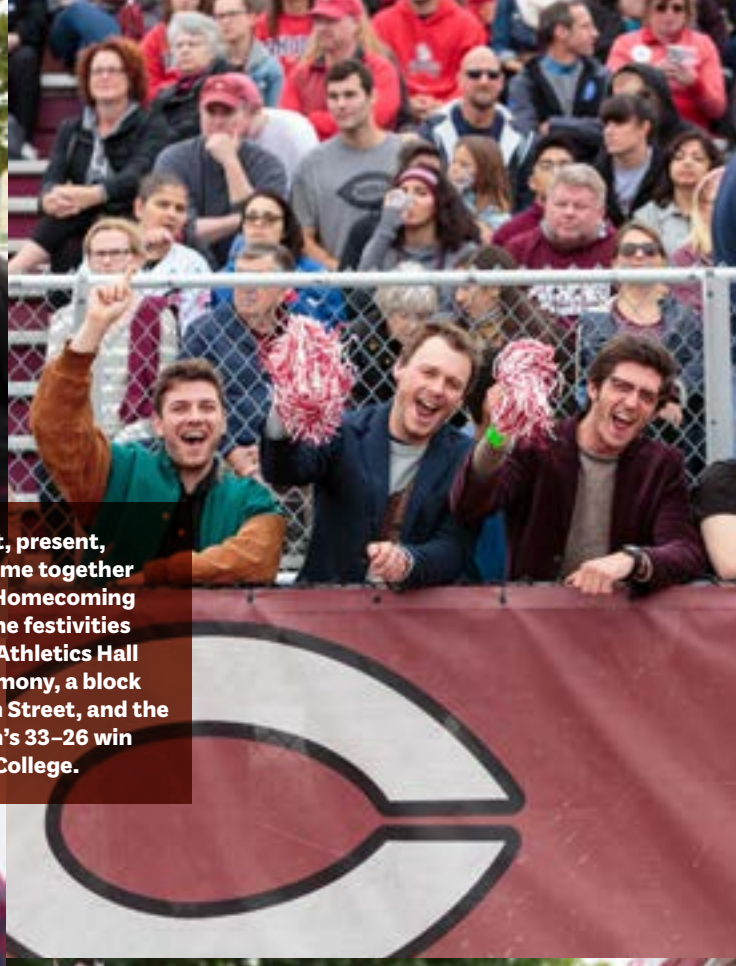
FALL 2016
VOLUME 109, NUMBER 1

Features

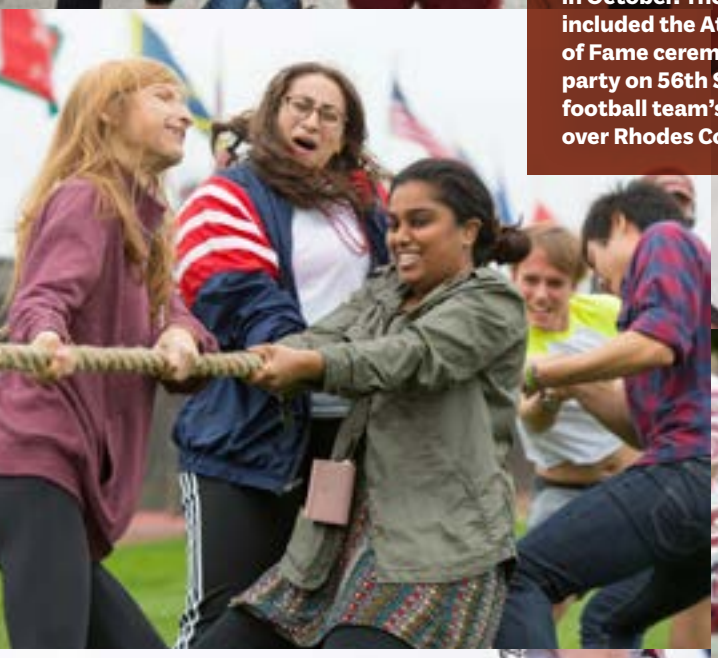
Departments

A sharp eye helped Oriental Institute Egyptologist W. Raymond Johnson, PhD'92, uncover an ancient art puzzle. See "Cracked case," page 15. Photo courtesy Art Institute of Chicago.

See the print issue of the *University of Chicago Magazine*, web-exclusive content, and links to our Facebook, Twitter, Instagram, and Tumblr accounts at mag.uchicago.edu.



Maroons past, present, and future came together to celebrate Homecoming in October. The festivities included the Athletics Hall of Fame ceremony, a block party on 56th Street, and the football team's 33–26 win over Rhodes College.



PHOTOGRAPHY BY ANNE RYAN AND JOHN ZICH

THE UNIVERSITY OF CHICAGO MAGAZINE

Volume 109, Number 1, Fall 2016

EDITOR Laura Demanski, AM'94
ASSOCIATE EDITOR Susie Allen, AB'09
ART DIRECTOR Guido Mendez
ALUMNI NEWS EDITOR Helen Gregg, AB'09
SENIOR COPY EDITOR Rhonda L. Smith
STUDENT INTERNS Christian Belanger, '17; Chloe Hadavas, '17
GRAPHIC DESIGNER Laura Lorenz
LITE OF THE MIND & INTERACTIVE CONTENT EDITOR Joy Olivia Miller
CONTRIBUTING EDITORS John Easton, AM'77; Carrie Golus, AB'91, AM'93; Rachel Julkowski; Brooke E. O'Neill, AM'04; Amy Braverman Puma; Mary Ruth Yoe

Editorial Office *The University of Chicago Magazine*, 5235 South Harper Court, Suite 500, Chicago, IL 60615. TELEPHONE 773.702.2163; FAX 773.702.8836; EMAIL *uchicago-magazine@uchicago.edu*. The *Magazine* is sent to all University of Chicago alumni. The University of Chicago Alumni Association has its offices at 5235 South Harper Court, 7th Floor, Chicago, IL 60615. TELEPHONE 773.702.2150; FAX 773.702.2166. ADDRESS CHANGES 800.955.0065 or *alumni-support@uchicago.edu*. WEB *mag.uchicago.edu*

The University of Chicago Magazine (ISSN-0041-9508) is published quarterly (Fall, Winter, Spring, Summer) by the University of Chicago in cooperation with the Alumni Association, 5235 South Harper Court, 7th Floor, Chicago, IL 60615. Published continuously since 1907. Periodicals postage paid at Chicago and additional mailing offices. POSTMASTER Send address changes to *The University of Chicago Magazine*, Alumni Records, 5235 South Harper Court, Chicago, IL 60615.

Ivy League Magazine Network
WEB ivymags.com
Heather Wedlake, Director of Operations
EMAIL *heatherwedlake@ivymags.com*
TELEPHONE 617.319.0995

Bright stars

BY LAURA DEMANSKI, AM'94

Oct. 1, 1784. Gathered in the Swan's egg, autumn-burgamot, Cresan-burgamot, Chautmontelle, & Virgoleuse pears: a great crop. On Oct. 1, 2016, I headed to the quads to help out at a photo shoot with some of the Odyssey Scholars in "Epic Beginnings" (see page 22). It was the Saturday after the first week of classes, and the campus population had swelled accordingly.

Art lovers wanted directions to the Smart and the Oriental Institute. People streamed toward a conference in Wieboldt Hall and a Bond Chapel wedding (the groom was a recent PhD). Campus tours wandered by with regularity, and the weather changed equally often as umbrellas bloomed, collapsed, and bloomed again.

Because I write these notes quarterly, the impulse to describe seasonal shifts is powerful. That impulse thrives in Chicago, where the seasons are, to put it mildly, distinct—and on a campus that fills and empties reliably as the days grow short and long.

But I also blame Gilbert White.

I first learned about the 18th-century naturalist and diarist from a former UChicago classmate, **Martha Bohrer**, PhD'03, now an English professor at North Central College near Chicago. Ever since, I've kept a copy of his journals at hand to read what was happening in one rural corner of England on the same day two centuries ago.

Oct. 1, 1787. Wheat not so good as last year: 50 sheaves do not yield more than forty did this time twelve months. Almost daily for 40-plus years, White chronicled the natural history of his small Hampshire village. His journals document the comings and goings of local flora and fauna, and each year's variations.

White rewards different ways of reading. Flipping from one October 1 entry to the next acquaints you with early autumn's dependable martins, pears, woodcocks, and wheat. Reading chronologically unfolds the story of a year spent closely observing White's latitude. Each shift to new crops, colors, air, and light feels like a small revolution, and at the same time a comforting return.

Oct. 1, 1777. Bright stars. Speaking of small revolutions, this issue of the *Magazine* brings something new. We've partnered with our friends in the Physical Sciences Division to include their alumni publication, *Inquiry*, in the *Magazine*—see page 51. There you can read about the past and future of computers; trustee emeritus **Walter E. Massey**, the very model of a modern polymath; and the chances, according to UChicago astronomers and planetary scientists, of finding extraterrestrial life on planets in galaxies far, far away. I know you'll find *Inquiry* illuminating. ◆

LETTERS

Fresh air cure

From 1958 to 1959 I was a patient at Walter Reed's Forest Glen annex, located in Bethesda, Maryland. From Laura Demanski's (AM'94) description in "Safe Harbor" (Summer/16), I believe it is the same place that she calls the Walter Reed National Military Medical Center. There were verdant woods and walkways where patients dressed in wrinkled blue-and-white-striped robes could enjoy the air, sans air conditioning. Building architecture then was novel, picturesque, and beautiful. Weekends occasionally offered military band or orchestra concerts to relieve the tedium. Forest Glen was well insulated from busy Georgia Avenue and Bethesda's commercial bustle. Even then holistic medicine benefited patients. Thanks for the memory!

Even then holistic medicine benefited patients.

Thaddeus Kochanny, MBA'66
INGLESIDE, ILLINOIS

Speaking of free speech

Grappling with tough ideas is at the heart of the U of C experience—whether that's understanding a proof in your first math class without numbers or debating the very idea of whether judicial decision making is the best place to make law in a law, letters, and society class. I pride myself on my ability to not take an idea on its merit or on my own preconceived bias but to engage critically and constructively. And yet, the recent letter from dean of students in the College John Ellison to the Class of 2020 did not celebrate those qualities and those challenges, but instead dismissed the notion that an academic institution that values a free flow of ideas and critical debate might have a proactive role to play in ensuring the ability of all students to participate in such debate.

The impact of trauma and the damage that individuals with post-traumatic stress disorder can suffer when that trauma is reexperienced through triggers is medical science. A warning given in the syllabus of a class that subject material will contain discussions of rape or violence against women does not mean such materials should not be read and examined. Instead, a warning provides students whose health would suffer by being surprised by such discussion or material the space, time, and ability to figure out how to be part of the conversation, or if they need to choose not to be.

The University has been criticized for its whiteness and its privilege, and I cannot help but see this letter and these sentiments in the same vein. Protecting free speech and an environment of rigorous debate with ideas different from one's own does not mean simply allowing all ideas to come forward but rather ensuring that all voices and ideas can be brought forward, and that there is space for them. This debate is one that feels very necessary to ensuring the University and the College continue to be places where vigorous debate from a wide and varied set of perspectives can be held.

Elizabeth Rose Wampler, AB'04
OAKLAND, CALIFORNIA

I am a lawyer by training. I had three uncles who fought in World War II when they were about the same age my son is now. Luckily they all came back. All faced death; one was shot at the Battle of the Bulge, one went down on a ship in the Pacific, and one was shot down in a "flying coffin" over Italy. Our generation was post-Vietnam, and I guess hasn't faced much by comparison. I am absolutely shocked that these matters constitute a controversy. I feel that the *Chicago Tribune* editorial page has it right, saying, inter alia, "Students who cry foul over discourse they find objectionable miss the chance to learn. They also, we would add, risk looking like babies."

I hope that historical perspective can be brought to bear. Historical references are often distorted and distorting. My son and I have discussed at some length the problem of applying contemporary norms to the behavior and actions of historic figures. Perhaps it is a misnomer to call the WWII generation "the greatest." But I'm still left to wonder what they would think about what appears to be emerging as the most entitled generation.

It's especially hard to take from kids enrolled at elite colleges, costing double the total net worth of average families, when wages for the majority of citizens have stagnated for decades, high poverty rates and incarceration rates persist, several foreign wars are under way, and chaos is erupting in the Middle East and Europe. One would think there are many profound and complex issues to sink one's teeth into these days, having to do with the actual suffering of others and deliberate, seemingly misguided policy choices that have been and are being made, versus selfish elitism and hurt feelings. It seems that there has been an almost total loss of perspective, at least among some.

I do hope the University and other institutions will continue the most strenuous defense of free speech, debate, and inquiry, and I hope that those who seek to limit it will be compelled to consider both how lucky they are and how they and this position look, both to their fellow citizens and in the context of history.

Louis R. Johnson (parent)
ANN ARBOR, MICHIGAN

It is unfortunate that John Ellison has taken on the straw man versions of trigger warnings and campus safe spaces, giving them a corporeality they should continue to lack.

Those whose politics back the idea that it's heterosexual Chris-

After reading "Tend Your Garden" (Editor's Notes, Summer/16), Donald Musser, PhD'81, regaled us with stunning scenes from his own garden in DeLand, Florida.

PHOTOGRAPHY BY BILL GOFF

tian white men who are the true oppressed minority have, in many circles, successfully taken the idea of trigger warnings and turned it into a parody. Trigger warnings are intended to be, obviously enough, warnings—letting people who have suffered trauma know to ready themselves for material that may elicit painful, and distracting, memories. But the right has redefined "trigger warnings" in the public mind as a way for people (implicitly women and minorities) to avoid certain classroom conversations. The deviousness of this redefinition is that it's not just dishonest, it actually reverses the original intent. By allowing people who have experienced trauma to steel themselves, trigger warnings allow them to take part in the conversation, broadening the discussion. It's a curious "commitment to academic freedom," in Ellison's words, that explicitly refuses to make this (really pretty minimal) effort that may make it possible for more rather than fewer people to participate in the conversation.

The idea of campus safe spaces has been similarly perverted. This term came to the public's notice around Halloween last year, relating to Yale's residential college model and students' personal lives in those residences. It was not Yale that students said needed to feel safe, it was their homes on the Yale campus. Surely we can agree that wanting to feel safe in one's home is a reasonable desire, but the right has successfully turned this into women and minorities finding oppression where none exists.

In writing that the University "do[es] not condone the creation of intellectual 'safe spaces' where individuals can retreat from ideas and perspectives at odds with their own," Ellison bolsters this invention of the right wing. It may be intellectually free, but it's equally intellectually dishonest.

Read Schusky, AB'81
ARLINGTON, MASSACHUSETTS

As reaction to the recent letter to incoming freshmen has shown, free speech is a huge issue on all campuses today—whether public or private. It's true that there are greater protections for free speech on public campuses than private, but the principle and importance of freedom of expression remain the same on all campuses and should be encouraged everywhere.

The danger of limiting free speech on campuses is exactly the same as limiting it in society at large. The difference is that the PC police patrolling campuses have actually succeeded quite well at intimidation and censorship. Just look at the shocking number of comments from universities and journalists opposing the University of Chicago's commitment to free speech.

Above and beyond the principle at stake, one might wonder from a practical point of view what will happen to today's coddled, feeble-minded college students when they get out into the real world and discover that war, disease, poverty, hunger, racial strife, and crime exist there. Who will protect them then from reality? And did their university education do anything to prepare them for dealing with these unsettling issues, or merely shelter them?

Greg Mantell, AB'93
BEVERLY HILLS, CALIFORNIA

Capital thoughts

I think John Paul Rollert, AM'09, has missed the point made beautifully by Richard R. West, MBA'63, PhD'64 (Letters, Summer/16). Free markets do most efficiently distribute the resources of a society and are ethically sound. Although the markets here in the United States are more free than anywhere else in the world, they are not free. Crony capitalism distorts the marketplace. As pointed out by West, this distortion was the fundamental cause of the Great Recession.

Rollert should spend more time investigating the ethics of the marketplace distortions caused by cro-

ny capitalism than questioning the ethical value of a truly free market capitalism.

Burton Gombiner, PhB'50, MBA'54
MARINA DEL REY, CALIFORNIA

Richard West's letter in the Summer/16 issue notes that the growth of subprime mortgages, which caused the economic crisis of the late 2000s, "did not come out of some nefarious, capitalistic plot. It came from Washington, DC, as part of a planned public effort to foster homeownership, especially among the lower classes." Thus, government is to blame for the crisis.

What West does not ask is why the government was interested in fostering homeownership. The reason is this: because this country has rejected the comprehensive welfare provisions found in Europe, poverty is much higher here than in other developed countries. Officials were trying to find ways to lower poverty, and helping the poor into homeownership so that they could build assets was one such way. We know now the costs of this idea, but at the time it was supported by the left and the right.

Poverty is the flaw that West cannot seem to find in the "integrity of the capitalist system." If he has solutions to it, they would be welcome. If he does not have solutions to offer, he should join those of us calling for broader welfare provisions to ensure that the sequence that resulted in the recent crisis is not repeated.

Monica Prasad, AM'95, PhD'00
EVANSTON, ILLINOIS

"Of Morals and Markets" (Spring/16) mentions Adam Smith's claim that individuals who trade freely in pursuit of their own interests are led as if by an invisible hand to benefit society. Its author adds that he asks his students "whether Smith's vision, or the popular appropriation of it, vindicates any type of self-interested pursuit. Surely the man who steals my car is acting in his own favor."

Smith's vision does not vindicate car theft: "There can be no proper motive for hurting our neighbor, Smith writes in the *Theory of Moral Sentiments* (1759). If the "popular appropriation of" Smith's vision would vindicate car theft, that might argue for education to cure that popular misunderstanding. On the other hand, that cure might only make things worse if business ethics textbooks commonly misrepresent the views of both Smith and Milton Friedman, AM'33 (see Harvey S. James Jr. and Farhad Rassekh, "Smith, Friedman, and Self-Interest in Ethical Society" [*Business Ethics Quarterly*, July 2000, pages 659–74]). If business ethics textbooks present caricatures of Smith and Friedman as if they were accurate, would that raise questions about academic ethics?

Sheldon Kimmel, AM'77, PhD'80
WASHINGTON, DC

A good enough family

As always, the *Magazine* excels in delivering delights to the mind and soul, not least in the Summer/16 issue with Helen Gregg's (AB'09) superb piece on John B. Goodenough, SM'50, PhD'52 ("His Current Quest"). On seeing the photo of him, I spied the sparest corner of what I knew to be a Sadao Watanabe print, possibly of the Last Supper. (I have a very small Watanabe on another subject.)

Yet, not until the final paragraph did I put together the pieces: John is the son of Erwin Ramsdell Goodenough (1893–1965), a great scholar of the *Religionswissenschaft* into which I was initiated as a New Collegiate Division third-year, sitting in on every Mircea Eliade lecture I could access and completing my AB in the history and philosophy of religion with inspiration from Jonathan Z. Smith. Reading Goodenough's books was almost as fun as the *Iliad* and *Odyssey* in Western Civ with Karl "Jock" Weintraub, AB'49, AM'52, PhD'57. And John's brother, Ward Goodenough (1919–2013), was no slouch; eminent anthropologist at the University of Pennsylvania, he lived to be 94 and left a huge imprint.

Wow! "Goodenough genes," I'd say, and we are all the beneficiaries.

Michael Tessman, AB'70
WAKEFIELD, RHODE ISLAND

What, no T-Hut?

Can't figure out why you omitted the Tropical Hut (aka T-Hut) from your list of great bygone Hyde Park restaurants("Top Eight," the *Core*, Summer/16).

Connie Bradley, AB'61
CHICAGO

You forgot to mention the T-Hut. I think it was on 57th. That's where we went when we were able to splurge.

Harriet Leopold Raphael, AB'52
WALNUT CREEK, CALIFORNIA

The much lamented T-Hut was on 57th Street between Kimbark and Kenwood Avenues. —Ed.

Fond(ue) memories

Like many grads, I read with great interest and nostalgia your article on defunct Hyde Park restaurants. I figured Ribs 'n' Bibs had to be gone; Lynn Burton for certain would have to be about 103 years old by now. But where else can you get that sauce-soaked white bread under the ribs?

I was sorry you didn't mention Harper Court—the elegant Hyde Park restaurant in the '70s. After a Chicago Symphony Orchestra concert, nothing better than the beef fondue, cooking your own little slices of beef in the peanut oil and dipping in the various sauces.

P.S. Long live Harold's Chicken Shack (I hope)!

Paul J. Gudel, AB'70, AM'73
SAN DIEGO

A brotherly view

I read with pleasure Carrie Golus's (AB'91, AM'93) "Peripheral Vi-

PHOTO COURTESY LEONARD J. LYON

Leonard J. Lyon, SB'58, MD'62.

sion," about photographer Danny Lyon, AB'63 (Summer/16). While she speaks well of his recent show, *Danny Lyon: Message to the Future* at the Whitney Museum in Manhattan, words cannot do the exhibit justice. There were 175 photos, some familiar, some less well known, but most very powerful. His unconventional movies underscore his personal closeness to his subjects. The Whitney's catalog has excellent reproductions allowing you to enjoy his work over and over.

Leonard J. Lyon, SB'58, MD'62
HILLSDALE, NEW JERSEY

Danny Lyon: Message to the Future *has closed at the Whitney but opens at San Francisco's DeYoung Museum November 5, where it runs until April 30, 2017. It will then travel to Berlin and Zurich.*—Ed.

Vote smart

BallotReady offers hope and change in the current season of political fear- and anger-mongering aimed at our worst selves ("Vote of Confidence," Summer/16). Best wishes for the success of the UChicago team that has created a means for voters to engage in a rational and comparative evaluation of candidates up and down local ballots. It's tempting to be pessimistic about how many voters will use the service, but let's not give in to that temptation and be glad that Alex Niemczewski, AB'09; Aviva Rosman, AB'10, MPP'16; and Sebastian Ellefson, AB'03, have the courage and drive to keep hope alive for a better educated electorate. (I registered and look forward to receiving notice that Indianapolis is within the service area.)

I also very much enjoyed Wayne Scott's (AB'86, AM'89) piece, "Damn Your Meddling Ways," for its sweet nostalgia coupled with the unique embarrassment of being father to adolescents.

Jeff Rasley, AB'75
INDIANAPOLIS

Thank you for your article on informing voters. The work of Alex Niemczewski, Aviva Rosman, and Sebastian Ellefson is very commendable but is not unique. A similarly ambitious service has been offered for many years by the organization Vote Smart, which records information on 40,000 politicians nationwide and makes it available free to anyone at votesmart.org or 1.888.Vote.Smart.

From Vote Smart you can get information on politicians' positions, votes, biographies, ratings by special interest groups, funding, and speeches. Included are officeholders and candidates on many levels: president, Congress, state legislatures, city councils, etc. It's a great nonpartisan service worthy of the attention of voters everywhere.

Karl K. Norton, SM'61
BANGOR, MAINE

I read with interest and then with growing dismay the article about BallotReady, a start-up aiming to provide nonpartisan information to voters. While I congratulate the founders on their goal, I regret it didn't occur to them to investigate the market environment of the product they were about to sell.

If it had, they would have noticed that the League of Women Voters has been providing nonpartisan information to voters in races up and down the ballot since 1920. The League of Women Voters of Cook County cooperates with public television station WTTW in creating and posting a video voters' guide on which candidates—including those for the Metropolitan Water Reclamation District—are able to state their positions and qualifications.

Admittedly the League can and should do a better job of promoting its work, but I must wonder about the research and preparation not only of the BallotReady founders but of the article's author if none of them so much as asked about the nearly identical work of the League, which is alive and well and living in communities all over the country.

Kelly Kleiman, AB'75, JD'79
CHICAGO

BallotReady's voter guides, Alex Niemczewski tells us, are more comprehensive and easier to use in the voting booth than similar guides. She adds that the League of Women Voters is a valued partner of BallotReady. We regret that the story didn't mention the connection or BallotReady's other forerunners.—Ed.

I figured Ribs 'n' Bibs had to be gone. ... But where else can you get that sauce-soaked white bread under the ribs?

Going to bat

I hate to spoil the tribute to U of C baseball in the current issue ("Out of the Ballpark," the *Core*, Summer/16), but the sport's history is incomplete without covering the shameful years when teams spent spring break playing white-only colleges below the Mason-Dixon Line. The fact that there were no black players on U of C teams was no excuse for participating in domestic apartheid. The trips stopped in the 1950s when black students protested. Some in the athletic department resisted, but track coach Ted Haydon, LAB'29, PhB'33, AM'54, wouldn't stand for black members of his teams being discriminated against. He never took his teams south, and when meets were out of town he called ahead to make sure there were satisfactory accommodations for every team member. I was one of them.

Hosea Martin, AB'60
CHICAGO

A historian remembered

In William H. McNeill, LAB'34, AB'38, AM'39, the world has lost a brilliant and courteous gentleman (*see Deaths, page 91*). As a young undergraduate history student at an obscure Midwestern university in 1964, I was fortunate enough to win a Woodrow Wilson Fellowship allowing me to attend graduate school at any university in the country. Torn between Chicago and Yale, my decision was made when I received a charmingly misspelled and obviously hand-typed personal note from the illustrious chair of Chicago's history department, a man we all called "Mr. McNeill" since Chicago was, after all, simply a "community of scholars."

Modestly noting that I obviously had many options, he simply assured

me of a warm welcome should I pick the University of Chicago. As my teacher and dissertation adviser, he generously and patiently guided me through four years of graduate study; two years in the US Army, including a year in Vietnam; a couple of years of intense research and writing; and three years as a junior CIA officer before chairing the panel that approved my thesis and awarded me a UChicago PhD.

Mr. McNeill kindly took over mentorship from other faculty members much too busy with their own projects, patiently and faithfully reviewed my drafts, and encouraged my scholarship when marriage and career distracted me from the elusive doctorate. Always personally gentle and kindly, but straightforward and even blunt in critiquing what he once called my "fairly graceful" writing, William McNeill was a man who touched and helped shape my life and career. He had the same influence on countless others. The world, and the discipline, are better for his life.

Richard Schroeder, AM'65, PhD'75
WASHINGTON, DC

Dream on

"In Your Dreams" (UChicago Journal, Summer/16), reports that Kelly Bulkeley, PhD'92, in his early study of dreams, focused on the writings of Sigmund Freud, Carl Jung, and other 20th-century psychologists. In Bulkeley's words, these psychologists were "pretty adamant that dreams were just about personal, individual issues and concerns and have no relevance to bigger social and collective concerns."

My decision was made when I received a charmingly misspelled and obviously hand-typed personal note.

Jung never suggested that dreams were just about personal, individual issues and concerns. Of course, as a doctor, he usually attended to the personal significance of dreams in his efforts to understand the needs of his patients. But since he recognized no absolute barrier to exist dividing and separating the personal from the collective unconscious, dreams could lend symbolic expression to the unconscious dimension of collective events.

In his memoir, *Memories, Dreams, Reflections* (Pantheon, 1973), for example, Jung shares a series of terrifying visions and dreams that he experienced beginning in autumn 1913. Then, in June 1914, he dreamed for the third time the same dream: "that in the middle of summer an Arctic cold wave descended and froze the land to ice. ... All living green things were killed by frost" (page 176). Less than two months later, August 1, 1914, World War I broke out.

Reflecting back on his life, Jung writes that "the pressure which I had felt was in *me* [his emphasis] seemed to be moving outward. ... The sense of oppression no longer sprang exclusively from a psychic situation, but from concrete reality."

Beverly Moon, AM'68, AM'73
AUSTIN, TEXAS

Defended

A quick note to thank you for the excerpt by Ethan Michaeli, AB'89, in the current issue of the *Core* ("Stick Around for a While," Summer/16)—I absolutely loved it!

Richard Valelly, EX'73
SWARTHMORE, PENNSYLVANIA

Contractual wrongs

The letter from Paul Nachman, PhD'78, on immigrants "[pumping] up the incomes of the relatively few ... at the expense of the many" (Letters, Summer/16) misses another elephant in the room. This is the claim of business leaders such as Bill Gates that the United States does not have qualified computer experts and that we need to import specialists from around the world.

I worked in a company that began to fire/forcibly retire experienced employees and replace them with contract employees from India. None were more qualified except on paper. But they had the advantage of working without benefits. Also, when they were done they could be terminated without paying unemployment.

It is my opinion that the specialist category for temporary immigrants is a fraud on the public and possibly contributory to the current paralysis of middle-class advancement.

Jeffrey Fiddler, EX'70
CHICAGO

Artistic vindication

I am so delighted you had a small item in the *Magazine* about the Art to Live With program (Peer Review, Spring/16). I distinctly remembered having an original painting by Henri Matisse in my dorm room in 1968, but when I tell friends as much they simply will not believe me. They just can't imagine a college student having an original masterpiece in their dorm room. (Honestly, I was beginning to doubt it myself ...) Thank you.

Viviana Tul, AB'74
NEW FAIRFIELD, CONNECTICUT

Corrections

In "Deadly Force" (Fig. 1, UChicago Journal, Summer/16) we incorrectly named Palestinian Islamic Jihad due to an editing error. The sentence should have read "From 1980 to 2003, Pape points out, [the Sri Lankan Tamil Tigers] launched more suicide attacks than any other group, including Hamas and Palestinian Islamic Jihad."

In "Preserved" (Notes, Summer/16) we misidentified Dinosaur Park, a county park in Laurel, Maryland, as a national park. We regret the errors.

The University of Chicago Magazine *welcomes letters about its contents or about the life of the University. Letters for publication must be signed and may be edited for space, clarity, and civility. To provide a range of views and voices, we encourage letter writers to limit themselves to 300 words or fewer. Write: Editor,* The University of Chicago Magazine, *5235 South Harper Court, Suite 500, Chicago, IL 60615. Or email: uchicago-magazine@uchicago.edu.*

A crucible for confronting ideas

BY ROBERT J. ZIMMER, PRESIDENT

Free speech is at risk at the very institution where it should be assured: the university. Invited speakers are disinvited because a segment of a university community deems them offensive, while other orators are shouted down for similar reasons. Demands are made to eliminate readings that might make some students uncomfortable. Individuals are forced to apologize for expressing views that conflict with prevailing perceptions. In many cases, these efforts have been supported by university administrators.

Yet what is the value of a university education without encountering, reflecting on, and debating ideas that differ from the ones that students brought with them to college? The purpose of a university education is to provide the critical pathway by which students can fulfill their potential, change the trajectory of their families, and build healthier and more inclusive societies. Students learn not only through the acquisition of specific knowledge but also through the attainment of intellectual skills that serve them their entire life. Students come to appreciate context, trade-offs, and data. They master how to recognize complexity, to argue effectively for their positions, and to reconsider and challenge their own beliefs.

Students discover, too, that seemingly straightforward phenomena can have complicated cultural, historical, and situational contexts that are critical to understanding their meaning. They realize that actions inevitably have multiple implications and that many decisions involve not simply choosing between "good" or "bad" but evaluating a set of consequences and uncertainties, both desired and undesired.

President Robert J. Zimmer

PHOTOGRAPHY BY JASON SMITH

Students grasp the complexity of collecting, analyzing, interpreting, and deriving meaning from evidence of multiple forms. They learn to imagine alternatives, to test their hypotheses, and to question the accepted wisdom. A good education gives students the intellectual skills and approaches essential to success in much of human endeavor.

One word summarizes the process by which universities impart these skills: questioning. Productive and informed questioning involves challenging assumptions, arguments, and conclusions. It calls for multiple and diverse perspectives and listening to the views of others. It requires understanding the power and limitations of arguments. More fundamentally, the process of questioning demands an ability to rethink one's own assumptions, often the most difficult task of all.

Essential to this process is an environment that promotes free expression and the open exchange of ideas, ensuring that difficult questions are asked and that diverse and challenging perspectives are considered. This underscores the importance of diversity among students, faculty, and visitors—diversity of background, belief, and experience. Without this, students' experience becomes a weak imitation of a true education, and the value of that education is seriously diminished.

Free expression and the unfettered exchange of ideas do not always come naturally. Many people value the right to express their own ideas but are less committed to granting that right to others.

Over the years, universities have come under attack from a range of groups, both external and internal, that demand the silencing of speakers, faculty, students, and visitors. The attack is sometimes driven by a desire of an individual or group not to have its authority questioned. Other times it derives from a group's moral certainty that its particular values, beliefs, or approaches are the only correct ones and that others should adhere to the group's views. Some assert that universities should be refuges from intellectual discomfort and that their own discomfort with conflicting and challenging views should override the value of free and open discourse.

We have seen efforts to suppress discussion of Charles Darwin's work, to insist upon particular political perspectives during the McCarthy era, to impose exclusionary acts of racial and religious discrimination, and to demand compliance with various forms of "moral" behavior. The silencing being advocated today is equally as problematic. Every attempt to legitimize silencing creates justification for others to restrain speech that they do not like in the future.

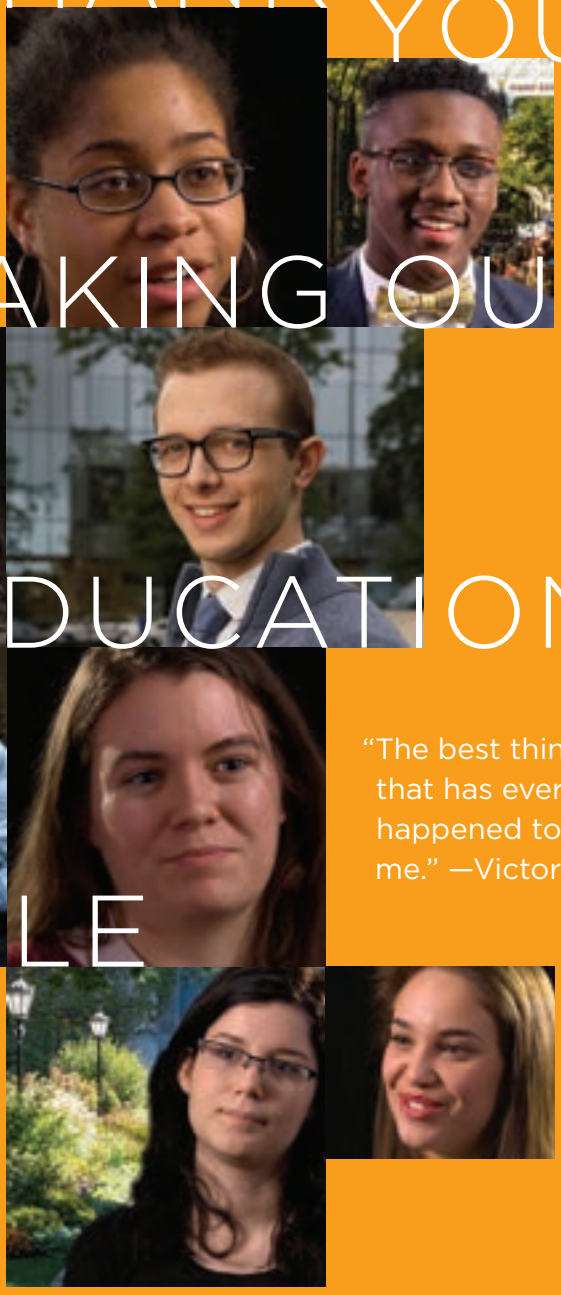
Universities should be clear about their core educational mission—to provide students with the most enriching education possible. We cannot shortchange our students. This means that questioning and challenge must flourish.

Universities cannot be viewed as a sanctuary for comfort but rather as a crucible for confronting ideas and thereby learning to make informed judgments in complex environments. Having one's assumptions challenged and experiencing the discomfort that sometimes accompanies this process are intrinsic parts of an excellent education. Only then will students develop the skills necessary to build their own futures and contribute to society. ◆

This column originally appeared in the Wall Street Journal *on August 26, 2016.*

ODYSSEY SCHOLARSHIP CHALLENGE

THANK YOU FOR MAKING OUR EDUCATION POSSIBLE



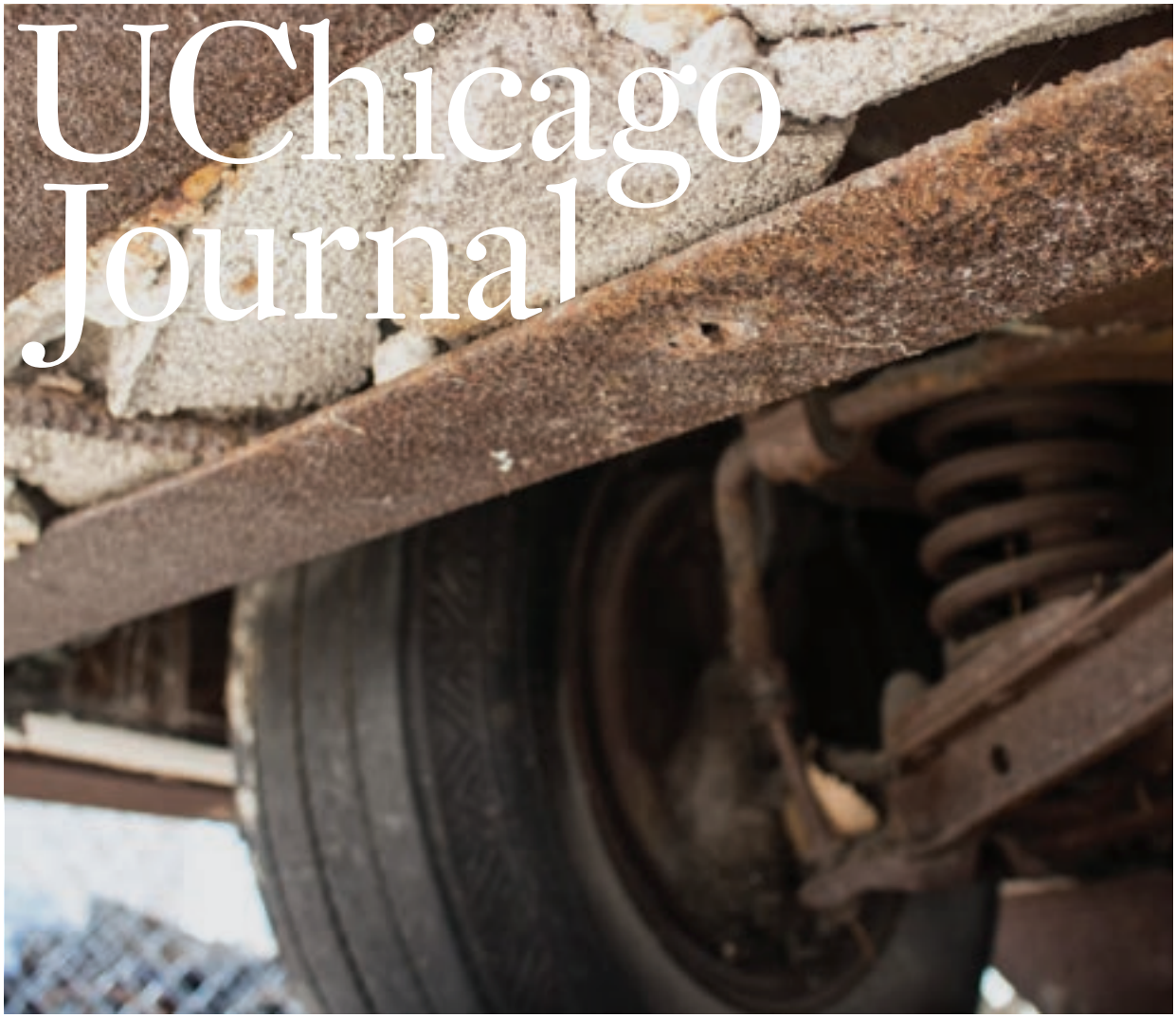
"The best thing that has ever happened to me." —Victoria

Join the 13,000 alumni and friends who support the Odyssey Scholarship Challenge. Your gift today changes lives.

give.uchicago.edu/odyssey

the college
THE UNIVERSITY OF CHICAGO

UChicago Journal



A detail of Wolf Vostell's *Concrete Traffic*. His budget for the sculpture was $2,000—including the cost of the car.

PUBLIC ART

Set in stone

A groundbreaking sculpture returns to campus—and sparks a dialogue on public art.

It was summer 2011 and **Christine Mehring** had just laid out her priorities as chair of the University's campus planning committee. At the top of her list: public art.

Mehring, professor and chair of art history, felt it deserved more attention. While the University owned thousands of public artworks, from Henry Moore's 1967 bronze sculpture *Nuclear Energy* to the presidential portraits lining Hutchinson Commons, their conservation had long been considered more a landscaping issue than an art history one.

And there was even more artwork off campus.

"There's all this stuff in storage we should probably take a look at too," another committee member chimed in.

"What's in storage?" Mehring asked.

"Well, there's this concrete car, for example," her colleague responded.

Mehring took a breath.

A postwar German art specialist, she had often visited an art bookstore near a famous car sculpture by Wolf Vostell in Cologne. In 1969 the artist had poured concrete over an Opel Kapitän L and placed it next to a parking meter. The "happening" was quintessential Fluxus, an avant-garde art movement that sought to disrupt the ordinary. "It's this sense of inserting art into everyday life," Mehring says, "and having people go, 'What?'"

Vostell reprised his performance the following year in Chicago, this time encasing a 1957 Cadillac DeVille in concrete near the Museum of Contemporary Art (MCA), which com-

An admirer of American car culture, Vostell saw the work (shown here in front of the new Campus North Residential Commons) as a "mummification and preserving these cars for the future," according to Mehring.

missioned the project. Six months later, the museum gave the sculpture, *Concrete Traffic*, to the University. It lived outside Midway Studios until 2009, before the renovation of the studios and construction of the new Reva and David Logan Center for the Arts.

Weighing more than 16 tons, it is the world's largest existing Fluxus object.

And it was hidden in a Humboldt Park warehouse.

"It was instantly clear to me," Mehring recalls, "that we had a really important sculpture that was just sitting in storage because no one knew what to do with it."

Luckily, she did. On September 30 the sculpture, *Concrete Traffic*, was resurrected after a massive four-year restoration effort that enlisted conservators, structural engineers, archivists, art historians, and vintage car specialists. The car processed through the city via flatbed truck, traveling from the MCA to campus. Its new home? Inside the Campus North parking garage at 5525 South Ellis Avenue.

IT WAS INSTANTLY CLEAR TO ME THAT WE HAD A REALLY IMPORTANT SCULPTURE THAT WAS JUST SITTING IN STORAGE BECAUSE NO ONE KNEW WHAT TO DO WITH IT.

"It had to be exhibited the way that the artist would have really wanted it to be, among real parked cars, moving traffic, pedestrians, and busy life," says Mehring. The vehicle's return also kicked off Concrete Happenings, eight months of free campus exhibitions, performances, film screenings, and symposiums celebrating public art.

It's a celebration Mehring never anticipated the first time she saw the sculpture up close. Nearly 40 years of exposure to the elements and a lack of professional art oversight had left the vehicle crumbling and covered with large, dark patches on its concrete. "The coloring was completely wrong," Mehring says. "It just made the whole sculpture visually fall apart."

Putting it back together would require a top-notch team—and a lot of detective work. "Even among conservators this is a very unusual object," says Mehring, who partnered with Christian Scheidemann, a New York–based conservator known for working with unconventional materials. Among their key challenges were addressing the patches, treating a damaged muffler on the car's underside, and ensuring the concrete's structural stability.

Complicating matters was the ambivalence of the work itself. As a Fluxus object, *Concrete Traffic* was at once a performance artifact and a sculpture, the remnant of a fleeting event and now a permanent artwork. "What we are doing here at the U of C is to preserve not only the physical substance," Scheidemann says, "but also the attitude it was made in, the history of the work itself, and the time it was created."

A 16mm film reel of *Concrete Traffic*'s making helped shed light on that history. Constructed on a freezing January morning—the concrete was mixed with salt to make sure it cured quickly enough—the sculpture was the handiwork of Vostell and local artists and fabricators he invited to help assemble the mold and pour the concrete.

"It seems so rare to have footage from that era of an artwork actually taking physical form," says archivist Mary Richardson, the MCA's library director, who discovered the long-lost video in the basement of the museum's warehouse. The documentary, along with new footage of the car's conservation, will play on a monitor near the sculpture in the garage.

The utilitarian parking garage is the ideal setting for *Concrete Traffic*. Imagine parking your car, walking past a row of other parked cars, then running into this huge concrete one. "That moment of surprise and shock," Mehring says, "of trying to figure out what the heck you are encountering, is so crucial to this artwork."

—Brooke E. O'Neill, AM'04

PHOTOGRAPHY BY EDDIE QUINONES

LITERATURE

A more literary union

As the new executive director of the National Book Foundation, Lisa Lucas, AB'01, wants to get America reading.

About 1,500 titles were sent to the National Book Foundation offices to be considered for this year's National Book Awards. It was enough to make executive director **Lisa Lucas**, AB'01, joke about the Collyer brothers, Depression-era hoarders who were found entombed by their own possessions. "We have a lot of books."

The National Book Awards, established in 1950 to celebrate the best in American literature, are given annually in four categories—fiction, nonfiction, poetry, and young people's literature. The piles of submissions that filled the office reflect the awards' prestige, though the winning books aren't selected at the foundation. Lucas and her staff verify each book's eligibility, but it's 20 independent judges, five per category, who decide the long- and short-listed titles, and the eventual winners. They get some general guidelines from the foundation and meet with judges from the past two years to help ensure consistency in selection criteria, but other than that, it's up to them, says Lucas.

The writers, booksellers, critics, and librarians who serve as judges are carefully selected each year. "I have such faith in our judges as one voice," says Lucas, "informed by the weight of the honor that they bestow." (University of Pennsylvania professor **James English**, AM'81, is a fiction judge.) They read all summer, and in September called Lucas with the long-listed titles. The five-title short lists were released on October 13. (The nonfiction short list includes *The Other Slavery: The Uncovered Story of Indian Enslavement in America* by **Andrés Reséndez**, AM'92, PhD'97.) The four winners will be announced November 16.

PHOTOGRAPHY BY BEOWULF SHEEHAN

The National Book Awards can help remind Americans that literature is for everyone, says Lucas. "You didn't have to go to a certain kind of college to care about our books, you didn't have to grow up in New York or work in publishing, you don't have to look a certain way or love a certain kind of person."

WILLIAM RAINEY HARPER'S INDEX

COLLEGE PREP

High schoolers currently participating in UChicago's Collegiate Scholars Program, which prepares talented lower-income Chicago Public Schools students for success at top colleges:

107

Years of classes and enrichment activities Collegiate Scholars receive:

3

Percentage of Collegiate Scholars who will be first-generation college students:

57

Percentage accepted to four-year colleges:

100

Percentage who graduate college within six years:

93

Collegiate Scholars alumni since the program started in 2003:

515

Lucas, who took the helm of the foundation in March after serving as publisher of literary magazine *Guernica*, figures she's not always going to agree completely with the judges' selections, but that's OK. "The conversation for me is exciting," says the woman the *Los Angeles Times* recently called a "high-energy bookish extrovert." It means the country has more great books than the awards can recognize, books ready to reflect a reader's own experience back, or expose them to a new world.

As an only child growing up in suburban New Jersey, Lucas saw books as "all these incredible windows into what other peoples' lives looked like." *A Wrinkle in Time* was a favorite, as were the Baby-Sitters' Club and Sweet Valley High books ("Stuff kids were reading in the '80s"). At the College, Herodotus's *The Histories* caught her attention—it's about a "totally different time but it felt so present." And Theodore Dreiser's *Sister Carrie* kept her up several nights in a row, engrossed in turn-of-the-century Chicago.

The National Book Foundation runs several year-round programs designed to get people engaged with literature. The after-school BookUp helps kids start their own home libraries (books can change "young people's lives and trajectories and opportunities," says Lucas). Eat, Drink, and Be Literary is a reading series featuring prominent authors. "We're not a literacy organization," says Lucas. "What we do is joy work," reminding people that humor, thrills, or "whatever you're looking for can be found in those pages." A growing number of the foundation's programs are available outside of the New York City area—book publishers may be concentrated there, but readers aren't, and Lucas wants to reach as many of them as possible.

The National Book Foundation has recognized many alumni authors in its almost seven decades of presenting the National Book Awards. A selection of titles that have earned an NBA sticker are pictured above at the Seminary Co-op Bookstore (semcoop.com). *The Adventures of Augie March* by Saul Bellow, EX'39, and *In America* by Susan Sontag, AB'51, were fiction winners in 1954 and 2000, respectively; *American Salvage* by Bonnie Jo Campbell, AB'84, was a fiction finalist in 2009; *This Blue* by Maureen N. McLane, PhD'97, was a poetry finalist in 2014; *The Other Slavery* by Andrés Reséndez, AM'92, PhD'97, is a current finalist for nonfiction.

Lucas sees her role as being "a big old megaphone," getting people excited about the awards and excited about contemporary writing. That comes easy for a self-described "natural-born cheerleader" for books, who talks about her current reads every chance she gets, including to thousands of Twitter followers. She also believes being the first woman and the first person of color to lead the 67-year-old awards program will help reach more readers. "I think my brain automatically includes people who were not included," she says. "Thinking about other audiences, broadening the awards, and figuring out how we can engage people"—that's her job.

Doing that work, from events to marketing to her personal tweets, is what's going to get more readers excited about the National Book Awards and talking about, and invested in, contemporary writing, says Lucas. "If you do that work throughout the entire year, then you change the audience when November 16 comes."

Lucas uses the word "audience" a lot—she's worked in development at Steppenwolf Theatre and the Tribeca Film Institute—and speaks admiringly of how regional theaters and independent film organizations have cultivated their audiences. "They know how to get people sitting in their seats," she says. "They are out there singing their own praises and encouraging people to think about why their work is important."

She's hoping to do the same for books, partnering with literary organizations and funders to celebrate American literature, both during the National Book Awards and all year long. It's about using the awards platform and the foundation's name recognition to declare that books are important, says Lucas. To say that literature "helps us to be more empathetic, and to have a better relationship with our fellow Americans; it helps us to be better citizens, it helps us to think bigger in our own lives—and that's something that's worth making possible for as many people as we can."

The long and short lists are available at nationalbook.org. The 2016 National Book Awards will be live streamed on the site on November 16.

—*Helen Gregg, AB'09*

PHOTOGRAPHY BY JOY OLIVIA MILLER

ART HISTORY

Cracked case

A scholar's chance observation in an Italian museum helps solve an art history mystery.

Scholars still don't know when or how an ancient sculpture of the Greek youth Antinous broke in two, but today it's been digitally reunited, thanks in part to the keen eye of W. Raymond Johnson, PhD'92.

On a trip to Rome in 2005, UChicago Egyptologist **W. Raymond Johnson**, PhD'92, spotted a familiar face. It was a marble bust of a second-century Greek youth known as Antinous, displayed in a gallery at the Palazzo Altemps museum.

It reminded him instantly of a similar piece he had seen at the Art Institute of Chicago—with one important exception. "The face I saw in Rome just didn't seem right," says Johnson, who realized it was a restoration. "The only original part was the back of the head and shoulders."

Then he noticed something else: both pieces shared the same unusual vertical crack visible along the left side of the face—a striking similarity that led Johnson to believe that the Antinous fragment, thousands of miles away in Chicago, belonged on the bust in Rome. "I have the worst memory in the entire world for most things, but give me a piece of sculpture—part of a head or a relief of Tutankhamen—and for some reason a part of my brain really hangs on to that," says Johnson.

Johnson contacted colleagues at the Art Institute, beginning a decade-long investigation to test his hypothesis. A collaborative effort between the Art Institute and the Palazzo Altemps ultimately solved a centuries-old puzzle and proved the two sections had once been one. The work was featured in a recent Art Institute exhibition, *A Portrait of Antinous, in Two Parts*.

As director of the Oriental Institute's Epigraphic Survey, based at Chicago House in Luxor, Egypt, Johnson has spent decades piecing ancient sculptures and reliefs back together. Early in his career, he documented wall fragments from the majestic Luxor Temple (constructed in roughly 1360 BCE) by drawing them. Very quickly he made connections that others never had. "I could see that many fragments fit together," Johnson says. "I guess you'd say I have an eye."

Since then he has identified, documented, and pieced together thousands of inscribed wall fragments, in the process preserving them and, in some cases, restoring them to temple walls.

Johnson is an aficionado of the art that flourished during the reign of Roman emperor Hadrian (117–138 CE), a period replete with representations of Antinous. The exceptionally handsome young man, whom scholars believe may have been Hadrian's lover, drowned in the Nile in 130 CE, while accompanying him on a tour of Egypt. Grief stricken, the emperor declared Antinous a god and founded the city Antinoupolis near the site of his death. Images of Antinous, with his signature curly hairstyle, began to appear on coins and medallions, and he became the subject of numerous sculptures.

Johnson was not the first to raise questions about the origins of the Art Institute's Antinous. When the museum's first president, Charles Hutchinson, purchased the piece in 1898, it was in the form of a relief on a marble panel. As early as 1913, curators wondered whether the portrait might originally have belonged to a bust, so the idea that the relief was part of a larger sculpture was not new, according to Karen Manchester, chair and curator of ancient art in the museum's Department of Ancient and Byzantine Art. "But from the moment I read Ray's email, I was intrigued," Manchester says. "Had he really found the rest of it? A trip to Rome convinced me that he had

PHOTO COURTESY THE ART INSTITUTE OF CHICAGO

done so, but then came the challenge of proving he was right."

An important leap forward came when an Italian lab tested samples of stone from each section. The test revealed both pieces could have been sculpted from the same block of Carrara marble. Scholars also delved into archives in Chicago and Rome to unearth new details about the two works. While they were not able to establish definitively when and how the bust of Antinous fractured, they believe it was in two pieces by the 1640s, and may have broken as early as 410 CE—possibly a casualty of the Visigothic invasion of Rome.

FROM THE MOMENT I READ RAY'S EMAIL I WAS INTRIGUED. HAD HE REALLY FOUND THE REST OF IT?

To determine whether the Art Institute's fragment aligned with the bust, three-dimensional scans of the heads of both pieces were created, allowing scholars and artists to noninvasively establish orientation and fit. To be absolutely sure the two pieces matched, the team used 3-D printers to create replicas of each museum's section of Antinous and fused them together with modeling clay. From this mold, a plaster cast was generated, reproducing the sculpture in its original form.

"This shows what's possible with the fantastic new digital technology we have available," says Johnson. "These tools have directly benefited archaeology—they facilitate documentation, but also the analysis and ultimately the reconstruction of ancient fragmentary monuments."—*Mary Abowd*

CITATIONS

Only 5 percent of Amish children ages 6–14 have asthma.

PHOTOGRAPHY BY SHINYA SUZUKI, LICENSED VIA CREATIVE COMMONS (HTTPS://CREATIVECOMMONS.ORG/LICENSES/BY-ND/2.0/LEGALCODE)

BREATHING AMISH

The Amish lifestyle protects children from developing asthma, according to a *New England Journal of Medicine* study published August 4 by an interdisciplinary team of UChicago scientists that included **Carole Ober**, **Jack Gilbert**, **Anne Sperling**, **Cara Hrusch**, and **Rebecca Anderson**, as well as graduate students **Catherine Igartua** and **Michelle Stein**. The researchers compared two farming communities: the Amish of Indiana and the Hutterites of South Dakota. Despite similar genetic ancestry, Amish children are four times less likely to develop asthma than their Hutterite counterparts. The study found that the microbe-rich dust from Amish homes provides protection against asthma by engaging and shaping the innate immune system, the body's first major defense against invading substances. Exposure to these microbes is a byproduct of the Amish community's traditional farming practices, which require close contact between families and their animals. The Hutterites have replaced these methods with industrialized machinery.

CLEARER SKIES AHEAD

Getting pilots involved is the most effective way for airlines to promote fuel efficiency and reduce carbon dioxide emissions, according to a June National Bureau of Economic Research working paper by **John List**, the Kenneth C. Griffin Distinguished Service Professor in Economics, and Becker Friedman Institute postdoctoral scholar **Robert Metcalfe**. The researchers found that providing airline captains with personalized feedback, monthly information on fuel efficiency, and future targets significantly reduced emissions. Incorporating data from more than 40,000 Virgin Atlantic flights over an eight-month period, their study estimates that the measures saved $5.37 million in fuel costs for the airline and reduced emissions by more than 21,500 metric tons of carbon dioxide. The researchers' approach also highlights the potential benefits of focusing on workers rather than whole firms, and so far the results are lasting: the in-flight efficiency measures and taxiing practices have remained in use since the study's completion in September 2014.

DIVINING DIVORCE

It's possible to predict the likelihood of divorce, writes Chicago Harris's **Ioana Marinescu** in the January *Labour Economics*. Despite the common theory that couples divorce after gradually learning they're poorly matched, Marinescu argues that certain economic shocks to marriage quality best account for divorce patterns. Using the US Census Bureau's Survey of Income and Program Participation, Marinescu discovered that a couple is 65 percent more likely to divorce when one spouse is fi ed, and 57 percent more likely when a spouse is laid off. Other variables, such as home ownership, might mitigate the influence of job loss. The upshot? "People who are more resilient in the face of change are likely to have more stable marriages," Marinescu said.

TROUBLED TRANSPLANTS

A study in the May *Transplantation* suggests that obesity increases the risk of organ transplant rejection. **Anita Chong**, professor of surgery; **Maria-Luisa Alegre**, PhD'93, professor of medicine; and their team used mice fed a high-fat diet to assess how obesity-related inflammation and metabolic issues might affect immune response to transplanted organs. The obese mice rejected heart transplants more quickly than lean mice, though it is not yet clear how obesity heightens the immune response that causes their bodies to reject the graft. Developing treatments to improve the chances of transplant survival may one day be possible, but for now doctors can only acknowledge the added risk. "It's just a reality of our population that we have a lot of patients who are overweight, and we need to monitor them carefully," Alegre said.

—*Chloe Hadavas, '17*

A SoHo loft. When artists protested their eviction from these now iconic buildings, Eleanor Roosevelt supported their cause, writing in 1961 that New Yorkers should not "stand idly by and allow artists to be dispersed."

PHOTO COURTESY LOUIS MEISEL

URBAN POLICY

Lofty ambitions

A new book explores artists' role in the transformation of New York City's SoHo neighborhood.

In SoHo today, fashion houses like Balenciaga and Burberry stand alongside the shrinking, yet still substantial, number of art galleries that first helped put the Manhattan neighborhood on the map.

As important to the neighborhood, though, are its famous cast-iron lofts. The beefy 19th-century buildings are relics of the industries—garment making, waste recycling, and printing, among others—that predominated in SoHo until the middle of the 20th century. While architecture and art are both famously characteristic of SoHo, fewer people know that the preservation of these buildings into the present day was in part the result of energetic activism by the community of artists who flourished in the area during the 1960s and '70s.

[ARTISTS] INVENTED THE LOFT APARTMENTS, THEY ORGANIZED POLITICALLY TO LEGALIZE THIS SPACE.

In *Lofts of SoHo: Gentrification, Art, and Industry in New York, 1950–1980*, published in April by the University of Chicago Press, historian **Aaron Shkuda**, AB'03, AM'05, PhD'10, explores the ways these artists transformed the industrial neighborhood into a thriving space for the creation and display of new forms of artwork—and how that transformation eventually spun out of their control. Artists "invented the loft apartments, they organized politically to legalize this space, they changed the way that art was bought and sold in the city," says Shkuda. His book aims to bring those contributions to the forefront of SoHo's history.

Artists moved into SoHo in the '50s and '60s because it was cheap. They took over buildings abandoned by industries that had fled to the city's outskirts, driven away by municipal planning and the impracticalities of manufacturing and transporting their materials in the too-small lofts and too-narrow streets of downtown.

Since city ordinances technically restricted the area to industry, the painters, sculptors, and performance artists who bought and rented lofts lived there illegally. That didn't become a problem until the early '60s, when a series of loft fires (though none in artists' residences) turned the city's attention to SoHo. "When they encountered loft residents for the first time," Shkuda writes, "city officials did not celebrate the possible rebirth of a struggling industrial area at the hands of artists. Instead, they threatened them with eviction."

Over time, artists began forming community organizations to campaign for rights as tenants, staging demonstrations and enlisting famous figures like Donald Judd (who lived in SoHo) and Roy Lichtenstein (who did not) to lobby on their behalf. They succeeded: the city eventually gave certified artists permission to live in the lofts, and, in 1973, the area became a landmark district. The designation protects the cast-iron lofts from being altered without a special dispensation.

Through the efforts of community organizations, which included walk-

ing tours for suburbanites, artists marketed the neighborhood to outsiders. They shared their loft-living lifestyle, with spacious rooms and minimalist decor. Trendsetting galleries also attracted visitors.

But success threatened SoHo's identity, contributing to what Shkuda calls an "embourgeoisement" of the area, marked by a flood of upscale boutiques and restaurants. Some changes were seemingly innocuous, like an attempt to name a street after Greenwich Village artist Jackson Pollock—whom many residents considered an artistic rival. That effort evoked reactions ranging from "howling laughter to hot rage." More seriously, loft prices rose rapidly: in 1970, the *New York Times* reported buildings selling for $150,000, five times their price a decade earlier. (Today, SoHo lofts sell for millions.) That hurt renters, who were forced out by increased rents or threats of eviction from landlords.

Fearing that these factors would push many of them out of the neighborhood, some artists began to campaign against further legalization in the mid-'70s, aiming instead to maintain a delicate equilibrium of vestigial industry and artists. The city "wasn't really ready to go along with that, so they kept one area from north of Houston Street for artists only and they opened up TriBeCa [to nonartists], which is essentially now this bedroom community for Goldman Sachs," says Shkuda. The year 1976 "is in a sense the beginning of the end of SoHo and of the loft as an artist-only phenomenon."

Over the next couple of decades, the neighborhood became a tourist-heavy shopping district, and artists, voluntarily or not, began to relocate. "Some people get up and leave. They vote with their feet," says Shkuda. Others hung on, mostly in cooperative buildings that they had jointly purchased on the cheap decades earlier. But that required a new kind of reinvention. Shkuda recounts his own interview with Jared Bark, an artist turned businessman who stayed in the neighborhood well after its transformation (he has since left). "He buys a loft, he buys another one, he has a framing business," says Shkuda. "He freely admits that he becomes part of the bourgeois wing."

—*Christian Belanger, '17*

ORIGINAL SOURCE
DEEP TIES

A century-old pas de deux culminated in 2013, when the University of Chicago and the Marine Biological Laboratory entered into a formal affiliation. The histories of UChicago and the Woods Hole, Massachusetts, nonprofit center for biology, biodiversity, and environmental research had long been intertwined.

"The two institutions were, in a sense, almost cofounded," says surgery professor Karl Matlin, who cocurated *Shared Past, Shared Future*, a recent exhibition at the John Crerar Library that illuminated UChicago-MBL connections.

The ties date back to the MBL's founding in 1888: Charles Otis Whitman, the laboratory's first director, was recruited to establish the Biological Sciences Division at UChicago just three years later. At the MBL Whitman formed the values that he would bring to UChicago, promoting a collaborative ethos and a balance between research and teaching. He also prioritized the then-overlooked fields of experimental and cellular biology.

A few other key relationships can be traced in this photograph, showing scientists at the MBL in the summer of 1894. Circled is Frank Lillie, PhD 1894, Whitman's graduate student and eventual successor as both director of the MBL and chair of zoology at UChicago. Today, in his honor, UChicago and the MBL bestow Frank R. Lillie Research Innovation Awards for collaborative biological research. Standing near Lillie is Frances Crane, EX 1909, whom Lillie later married. This connection led Frances's brother, Chicago businessman Charles Crane, to join the MBL board and become a major benefactor.

Over the years the association of UChicago scientists with the MBL—from zoologist Cornelia Clapp, PhD 1896, at the turn of the 20th century to pioneering ecologist Warder Clyde Allee, SM 1910, PhD 1912 in the '50s—strengthened the institutions' relationship. The recent affiliation has proliferated these ties, bringing new year-round research and educational opportunities.

Last fall, for instance, the MBL hosted its first undergraduate course, an exploration of biology, evolution, and the cultural history of whaling on Nantucket Sound. This May the two institutions joined with Argonne National Laboratory to form the Microbiome Center, a new partnership seeking to understand microbes and their roles in all of the earth's environments.

—Chloe Hadavas, '17

PHOTO COURTESY THE MBL HISTORY PROJECT, ARIZONA STATE UNIVERSITY AND THE MBL

FOR THE RECORD

LEADERSHIP CHANGES

Early music scholar **Anne Walters Robertson**, the Claire Dux Swift Distinguished Service Professor of Music, will lead the Division of the Humanities as interim dean. Robertson, who has served as UChicago's deputy provost for research and education and as president of the American Musicological Society, began her appointment July 1. She succeeds **Martha Roth**, the Chauncey S. Boucher Distinguished Service Professor of Assyriology, dean from 2007 to 2016.

Douglas J. Skinner, the Eric J. Gleacher Distinguished Service Professor of Accounting and deputy dean for faculty, was named interim dean of Chicago Booth, effective August 15. Skinner is a leading expert on corporate disclosure practices, corporate fi ancial reporting, and corporate fi ance. As deputy dean he oversees several Booth centers, initiatives, and faculty groups. He succeeds Sunil Kumar, who served from 2011 to 2016 and is now provost of Johns Hopkins University.

2020 VISION

On September 18, president **Robert J. Zimmer** and dean of the college **John W. Boyer**, AM'69, PhD'75, welcomed the 1,591 members of the Class of 2020 and their families to the College. The new students represent 47 states and 38 countries worldwide. During opening convocation at Rockefeller Memorial Chapel, Boyer assured the new arrivals they would flourish at UChicago and left them with words of advice from Heraclitus: "Your character already defines your destiny."

EXPANDED CARE

UChicago Medicine broke ground September 15 on a new and larger emergency department that will offe level I adult trauma care. At more than 29,000 square feet, the facility will be 76 percent larger than the current emergency room, with new trauma resuscitation bays and rapid assessment units and an increased number of treatment stations. The emergency department is expected to open in 2018 and treat an additional 25,000 patients a year by 2021. The trauma center is projected to open several months later and to serve some 2,000 patients in its first year.

SWIMMING LESSONS

Naomy Grand'Pierre, Class of 2019, became the first female swimmer to compete for Haiti at this summer's Olympics in Rio de Janeiro. Grand'Pierre, a dual citizen of the United States and Haiti, placed second in her heat, fi ishing the 50-meter freestyle in 27.46 seconds. The College second-year hopes to promote the sport in Haiti, where just 1 percent of the population knows how to swim.

BRING IT ON HOME

In July the Barack Obama Foundation selected Jackson Park as the future site of the Obama Presidential Center. Tod Williams and Billie Tsien, architects of the University's Logan Center for the Arts, will design the new facility, where programming is expected to begin in 2017. The University led the effort to bring the nonpartisan presidential library and museum to the South Side of Chicago.

NEW SCHOOL

Construction began on a new home for UChicago Charter School Woodlawn Campus on September 14. The high school, located on 63rd Street, is expected to open in late 2017 and will feature technology-equipped classrooms, engineering and science labs, a media arts space, an athletic field, and a college resource center. The Woodlawn Campus currently serves 650 South Side students in grades six through 12. For the past five years, all of the school's graduating seniors have been accepted to college.

BIOLOGY BY THE NUMBERS

A $10 million gift from **Sanford Grossman**, AB'73, AM'74, PhD'75, established the Center for the Study of Quantitative Biology and Human Behavior. The center, founded in August, will leverage the power of genomics and neuroscience to contribute to understanding about fundamental questions of complex individual and social human behavior. A key feature of the interdisciplinary center will be the interaction of leaders in quantitative biology and neuroscience with researchers in the social sciences, humanities, Chicago Booth, and the Law School.

LIFELONG LEARNING

On September 21, the University launched AlumniU, a website that offers free online courses for alumni led by UChicago faculty members. Current offe ings include Plato's *Meno*: On the Possibility of Learning How to Be Good, taught by **Agnes Callard**, AB'97, assistant professor in philosophy; and Connecting the Curious: Love, Belonging, and Other Surprising Concerns of Science Fiction with **Hilary Strang**, PhD'09, deputy director of the Master of Arts Program in the Humanities. The site also provides tools for alumni to connect and collaborate. To get started, alumni can log in with their CNetIDs at alumniu .uchicago.edu.

LANDMARK ACHIEVEMENT

The American Chemical Society named the discovery of radiocarbon dating as a National Historic Chemical Landmark. In Kent Chemical Laboratory in the 1940s, Willard Libby and his colleagues developed the innovative method to measure the age of organic materials. Scientists have used the technique on materials from the meteorite that created northern Australia's Henbury Craters to the Shroud of Turin.

CLOCKWISE FROM TOP LEFT: UCHICAGO NEWS; UCHICAGO MEDICINE; UCHICAGO CHARTER SCHOOL; PHOTOGRAPHY BY NANY WONG; PHOTO COURTESY NAOMY GRAND'PIERRE; PHOTOGRAPHY BY JEAN LACHAT

Ensuring equity

Associate provost Sarah Wake talks about Title IX, accessibility, and equal opportunity on campus.

Sarah Wake, associate provost and director of the Office for Equal Opportunity Programs, joined the University last October to oversee efforts to ensure all members of the UChicago community are treated equitably.

Wake's office works to increase campus and website accessibility; designs and administers affirmative action programs; handles complaints of discrimination based on race, religion, age, disability, and other protected categories; and ensures compliance with Title IX of the Education Amendments of 1972, which protects members of educational institutions that receive federal funding from discrimination based on sex.

A native of Benton Harbor, Michigan, and graduate of Loyola University Chicago, Wake previously directed the Office of Institutional Equity and served as the Title IX coordinator at the University of Notre Dame, where she earned her JD.

She spoke to the *Magazine* about her work to create a more inclusive campus.

—Laura Demanski, AM'94

What led you to pursue this kind of work?

As a senior in college I volunteered at the Cook County State's Attorney's Office in the victim witness assistance unit, preparing survivors of sexual assault to testify at trial. Trials can be long and draining and difficult for people who have experienced trauma. Working with the survivors had a huge impact on me. I continued to think about it in law school, where I researched the high occurrence of sexual assault within our prison system. I published an article that contained a proposal for how to reduce the occurrence, which I eventually presented to a group that was working with Congress to think about the issue.

After law school I worked at McGuireWoods in Chicago and New York, focusing on employment litigation. The experience reiterated to me the importance of process and policies that are balanced and fair and afford both parties due process.

When I left in 2013 for Notre Dame, I got to work with students on a day-to-day basis. These experiences taken together have given me the policy side and the process side, but then also the opportunity to work with students, faculty, and staff and hear how difficult these situations are for them in a way that you don't get to do when you're working at a law firm. It's been incredibly gratifying to use my knowledge of the law—which I love—to make a positive change in an educational community and people's experiences in it.

PHOTOGRAPHY BY JOHN ZICH

Why did you come to UChicago?

I left my alma mater to come here, and the reason was twofold. First, I was impressed by the leadership from the time that I interviewed. I report directly to the provost, I interact regularly with the president, and I have without exception sensed a deep commitment to these issues from them. Second, I believe in the values that the University of Chicago stands for: free expression, rigorous inquiry,

and asking big questions. In order to uphold the University's commitment to these values, it's important that people from all backgrounds and perspectives feel they can contribute to the conversation.

Tell me about your office's work on accessibility.

I work in close partnership with Student Disability Services to ensure that we are providing reasonable accommodations for students, faculty, and staff with disabilities. We engage with students to hear what they need from us to succeed in their academic programs, and we have a similar process with faculty and staff to make sure they're able to focus on their work. This includes identifying places on campus that we can make more physically accessible and making sure that our community members are afforded access to University websites and online course materials.

What does your work on affirmative action programs entail?

As the affirmative action officer for the University, I have oversight of the design and implementation of our programs to strengthen the hiring and promotion of women, racial and ethnic minorities, individuals with disabilities, veterans, and members of the LGBTQ-plus community. Every year we put together a plan that looks at the makeup of our divisions and departments, and we think strategically about how to proactively recruit and retain people from these protected classes. We're now in a process of thinking about how to further enhance these efforts in both our recruiting pools and our workforce.

MUCH MORE THAN IN THE PAST, THE MESSAGE IS THAT GENDER-BASED HARASSMENT (OR ANY TYPE OF UNLAWFUL HARASSMENT) SHOULD NOT BE PART OF BEING A STUDENT, A LAWYER, A SCIENTIST, OR ANY PROFESSIONAL.

What is the University doing to address and reduce sexual harassment, discrimination, and misconduct?

We are currently one of nearly 200 institutions under investigation by the Office for Civil Rights (OCR), a division of the US Department of Education that has responsibility to enforce Title IX. We have always cooperated and will continue to cooperate with the OCR on the investigation, while also taking many proactive steps to increase and enhance our response to allegations of sexual misconduct, and to ultimately eliminate this behavior on campus.

One of these steps is that we're talking more to students about what their challenges are and how we can help them. One example is that the provost's office is forming a student advisory board as a way to interact with students and get a sense of how they're feeling about things and what they want to see in training programs and initiatives. We recently hired a deputy Title IX coordinator for students, **Shea Wolfe**. Shea is focusing on helping students with resources and giving them information about process and policies. She's holding open office hours every Tuesday from 11 a.m. to 2 p.m., so anybody who wants to stop by and ask a question has the opportunity to interact with her.

IT'S BEEN INCREDIBLY GRATIFYING TO USE MY KNOWLEDGE OF THE LAW—WHICH I LOVE—TO MAKE A POSITIVE CHANGE.

I think this will be very impactful, and I've taken the same approach with faculty and staff, which is to go out and meet them, hear about what it's like to be here, what their challenges are, and how we can help identify and address problematic behavior.

And a key thing we've done in the last year is to implement a mandatory training program regarding sexual misconduct for all students, faculty, other academic appointees, postdocs, and staff. This training was implemented at the recommendation of a faculty committee, and this recommendation was well received by the Committee of the Council and the Council of the University Senate.

What does the training cover?

The training provides a baseline understanding of expectations, procedures, and resources, and gives examples of behaviors that must be reported to the University. We started online training for second- through fourth-year College students, graduate students, and professional school students this September. First-year College students received both online and in-person training during Orientation Week and prior to their arrival on campus. And online training for staff is beginning this fall. This training also covers being an effective bystander—identifying and stopping discriminatory or harassing behavior as it's occurring.

For faculty and other academic appointees, I started giving in-person training last October. In my very first week here, a department in the Physical Sciences Division reached out to me for training. The faculty have been very supportive and engaged in the process.

How has increased media attention to Title IX issues aff cted your work?

The heightened attention to the issue of sexual violence and sexual harassment on college campuses has really allowed us to make progress in this area, particularly with how schools are thinking about training and outreach. I find the attention extremely positive because it makes people feel freer to talk about behaviors like sexual harassment, sexual assaults, and stalking that were harder to bring up and identify even five or 10 years ago.

I've gotten to speak to some of our own faculty members about their experiences coming up in their professions, and I have my own experiences working in the legal profession. Much more than in the past, the message is that gender-based harassment (or any type of unlawful harassment) should not be part of being a student, a lawyer, a scientist, or any professional. And I think that's a great outcome.

To learn more about the University's Title IX policies and processes, visit mag.uchicago.edu/titleixqa.

odyssey

EPIC BEGINNINGS

Launched in 2007 with an anonymous $100 million gift, the Odyssey Scholarship Challenge has transformed financial aid in the College. Meet six of the young people whose lives were also changed.

They're widely curious, civic minded, ambitious, optimistic. They're imagining ways their work can better other people's lives, and finding solutions. And they're just getting started. Put most simply, the Odyssey Scholars profiled in the next pages—and more than 3,500 others who have been part of the College's distinctive financial aid program—are UChicagoans.

But for many of them, the College would have been out of reach without the loan-free aid provided by their scholarships. Eliminating educational debt was Odyssey's first target, a part of the program since an anonymous alumnus known as Homer launched it in 2007 with a $100 million gift and a $300 million fundraising challenge. At the time it was the largest gift in the University's history, given, Homer said, in the hope that financial reasons would not keep talented students from attending the College and that they could "graduate without the siren of debt distracting them from taking risks and fulfilling dreams."

Today Odyssey does that and more. Now scholars can receive support not only for the costs of their education but for study abroad, substantive summer internships, and other experiences that enrich their scholarly work and ensure they'll be ready for their next steps.

The University has also added support for high school students, in the form of the Collegiate Scholars Program. The three-year enrichment initiative helps prepare talented Chicago Public Schools students to apply to and thrive at top universities (see Harper's Index, page 13)—some of them in the College as Odyssey Scholars. Collegiate Scholars and Odyssey received a major boost this year when **Harriet Heyman**, AM'72, and Sir Michael Moritz gave a $50 million gift and a $50 million fundraising challenge to support the broad compass of undergraduate financial aid at the University.

The investments made by Homer and Heyman and Moritz, and gifts from more than 10,000 other individuals over the years, tell a powerful story about a powerful idea.

So do the lives of the scholars, whether their journeys are under way or just embarking. In anticipation of Odyssey's 10th anniversary this spring, we invite you to get to know a few of these alumni and students.

—Laura Demanski, AM'94

PHOTOGRAPHY BY JASON SMITH

Previous page: Dickson has worked in Washington, DC, since earning his JD and MPH from the University of Michigan in 2013. Right: Zaragoza stayed in New York City after graduating from Columbia Law School, where she was editor of the law review.

Sean Dickson, AB'09

Senior Manager of Health Systems Integration,
National Alliance of State and Territorial AIDS Directors

Last fall **Sean Dickson**, AB'09, who works on improving health care access with the National Alliance of State and Territorial AIDS Directors (NASTAD), began hearing from several of the state-run drug assistance programs he represents about a sudden and steep pharmaceutical price hike. Daraprim, an antiparasitic drug used by patients with compromised immune systems, now costs $750 a tablet, up from $13.50, and the state agencies were struggling to stock it.

NASTAD filed the first and only complaint to the US Health Resources and Services Administration about the pricing practices of the drug's new manufacturer, Turing Pharmaceuticals, led by then-CEO Martin Shkreli. Dickson also worked closely with a *New York Times* reporter to break the story of the price increase, and continues to collaborate with the government officials investigating Turing.

Exposing Turing's "most egregious practices" was one of the proudest moments of his public health career thus far, says Dickson. The Shkreli case made drug pricing a focus of the national health care conversation, "and I think that we have a real opportunity here to make some systemic changes in how we finance medicine in this country."

Dickson has been working on public health issues since his time at the College, when he volunteered for several local organizations through UChicago's Community Service Leadership Training Corps (now Seeds of Justice) and traveled to China on a University-sponsored human rights fellowship to help implement HIV prevention programs.

In China he found himself drawing on his UChicago course work, particularly Western Civ. Studying how Western culture developed to emphasize individualism helped him realize how different it was in China—there, "you have agency relative to your social group or your career or your relationship within a family"—and that HIV prevention strategies focused on individual empowerment weren't going to be effective in Beijing. Dickson's BA project on community-based HIV prevention in gay Chinese men was named the best public policy undergraduate thesis for 2009. At UChicago "there were a lot of classes that have shaped who I am today," says Dickson, but "it was definitely the ancillary opportunities to apply the knowledge" that gave him a head start on his career.

Dickson almost didn't apply to UChicago; his parents, a teacher and a small-business owner in rural Illinois, were worried the cost would be prohibitive. But the University's need-based aid allowed him to attend, and the Odyssey Scholarship meant Dickson could go to graduate school without worrying about college debt. He plans to continue working in health care access; the Shkreli case sparked national discussion about drug pricing, and Dickson is excited "to continue to be a part of that conversation."—*Helen Gregg, AB'09*

EXPOSING TURING'S "MOST EGREGIOUS PRACTICES" WAS ONE OF THE PROUDEST MOMENTS OF HIS PUBLIC HEALTH CAREER THUS FAR.

Liliana Zaragoza, AB'10

John Payton Appellate and Supreme Court Advocacy
Fellow, NAACP Legal Defense and Educational Fund

As a third-year, **Liliana Zaragoza**, AB'10, would take "a very long ride"—the westbound No. 55 bus to the northbound No. 9 bus—to Chicago's Pilsen neighborhood. There, as a paralegal intern at the National Immigrant Justice Center, she helped with visa application cases, including some for women who were victims of violent crime.

One of the first cases she worked on, involving a woman who had been the victim of robbery and battery in a Chicago alley, was successful—the woman got her visa. The victory was a "turning point" that helped Zaragoza realize she wanted to go to law school: "I saw that advocacy could have a real impact on someone's life."

Today the Tucson, Arizona, native is a graduate of Columbia Law School and is the inaugural John Payton Appellate and Supreme Court Advocacy Fellow at the NAACP Legal Defense and Educational Fund, where she focuses on civil rights issues, including voting and education. She's currently litigating a challenge to an Alabama law that requires a photo ID to vote. "It's very much a continuation of a battle that's been going on for decades" against laws and policies around the country that disproportionately disenfranchise black and Latino voters, she says.

The Odyssey Scholarship didn't exist when Zaragoza ar-

PHOTOGRAPHY BY JASON SMITH

rived at UChicago in 2006, and while the University gave her financial aid, it wasn't as much as she'd been offered from other schools. Coming to Chicago was "a leap of faith," she says. The Odyssey program launched in 2008, just as Zaragoza was figuring out "not only my major but in some ways my calling." Her scholarship gave her the freedom to not just do work-study on campus, but also expand her horizons with unpaid internships at the National Immigrant Justice Center and the National Alliance of Latin American and Caribbean Communities (now Alianza America) in her third year at UChicago.

Zaragoza majored in international studies and minored in human rights, taking courses in anthropology, sociology, and gender studies. Her classes inspired her to expand her education beyond Hyde Park: "I learned in the classroom from my human rights courses and my sociology and anthropology courses [that], even as a young person in college, I could … be involved in the organizing that could make people's lives better."

She's thankful for her rigorous undergraduate experience. The intellectual demands of college made her legal education less intimidating, and what she learned in Chicago has stayed with her. "I think the University of Chicago prepared me well," she says, "for not only law school but just to think."—*Susie Allen, AB'09*

"It means a lot to me that people see the investment in students from all backgrounds is important," says Carrillo, who finds her fellow Odyssey Scholars' skills "next level."

Rebeca Carrillo, AB'15

Software engineer, Vaporstream Inc.

Rebeca Carrillo, AB'15, didn't decide to apply to UChicago until deadline day, and then mostly because she wanted to write the essay. "I didn't think I would be able to get in, but I said, I'm just going to apply anyway." So she did, "and it worked out."

The uncommon essay question that drew her in? "I actually made up my own." The prompt she gave herself was "You've been an alien on earth researching the humans for a year. Give a report back to your fellow aliens."

About a year out of school, she reports that the College was what she thought it would be—"a place that was weird enough and willing to put up with the things I wanted to investigate. I have very niche academic interests, and I'm very intense about those interests, and it seemed like a place that was going to foster that."

Carrillo grew up in a New Mexico town 45 minutes from the Mexican border, and her family felt some of the repercussions of a Juarez drug cartel's turf battles. The experience made her want to study organized crime operations, particularly the social networks through which criminal groups organize themselves and share information.

Carrillo worked for two years on her BA thesis analyzing the networks of two Mexican drug cartels. Examining tweets and web news sources, she modeled the organizational structures underlying the crime. The work drew on network theory that likens social networks to biological ones, and she found her Core bio sequence came in unexpectedly handy.

Before arriving at UChicago, Carrillo says, she didn't appreciate the vast variety of cultural experiences across the country and around the world. "I came from a neighborhood where almost every family spoke Spanish and English at home and basically nobody had any money." At UChicago her own network immediately expanded. "I met people from different countries, I met people with totally different cultural values, and that was a really good experience I never would have had otherwise."

Down the road she may go to graduate school to continue her crime network research. Right now she's a back-end software engineer for a Chicago company that provides messaging to hospitals and other clients that need ultra-secure communications.

The job is year-round, but in a sense she's still observing the quarter system. "Every 10 weeks I have a question I want to answer," she says. Right now she's focused on "hammock-driven development," or taking more time away from the computer to think through the design phase of a coding project—"well, it's a little more complicated than that." But "this idea of having a revolving question" is one of the ways UChicago stays with her.—*Laura Demanski, AM'94*

PHOTOGRAPHY BY JASON SMITH

"Now I know that I'm a force to be reckoned with," says Glispie. And by working with other South Side students through the University's Office of Special Programs-College Prep, "I'm going to show them that they are too."

PHOTOGRAPHY BY JOHN ZICH

Chloe Glispie, AB'16

Program Coordinator, University of Chicago Collegiate Scholars Program and Office of Special Programs-College Prep

"Thank God for nosy mothers," jokes South Side native **Chloe Glispie**, AB'16—it was her mother who found an email that Glispie had ignored about the University of Chicago's College Bridge Program and pushed her to apply. After just a short time in the program, which gives talented Chicago Public Schools students the chance to take UChicago courses for free, Glispie knew "this is where I need to be, this is where I want to go."

Early exposure to the College and the counsel of her adviser, **Bonnie Kanter**, also helped Glispie discover her interest in comparative human development. She settled on her major before she even matriculated.

Then after her second year, "life decided to happen"—Glispie's mother suffered a stroke that left her paraplegic, and Glispie, balancing classes with overseeing her mother's care and finances, didn't know if she'd be able to finish college. But with support from Kanter and the College, and her local church congregation, Glispie received her diploma on time in June. That day, "I just kept saying, Mama, we made it," she remembers.

Glispie is grateful her Odyssey Scholarship gave her an education, and a degree, that will help her support not only herself but her mother as well. She's also made a point of sharing her UChicago experience with her family by bringing them to campus events.

At Logan Center Family Saturdays, she loves watching her young cousins and niece "become bright-eyed watching a black man play the violin. ... I can look at their faces and say, OK, it was worth it, every late night paper, it was worth it."

Glispie decided to remain on campus after graduation; she currently works with two University programs designed to bring low-income high school students to UChicago for academic enrichment and to experience college life. Down the line, she wants to become a clinical social worker and to open a nonprofit focused on helping struggling or homeless teens, all on the South Side. "It's home," she says.

Growing up, Glispie didn't feel that way about the South Side. She saw her neighborhood of Auburn-Gresham, on the border of West Englewood, as "a prison"; the violence often left her and her family feeling hopeless. "The dialogue in my house was always to get out, get out, get out." But "being out of that environment for a couple years, I just realized that the goal should have never been to get out. It should have been to go back and make it better, and so that is exactly what I intend to do."—*Helen Gregg, AB'09*

Griffi Cox, Class of 2017

At UChicago, **Griffin Cox**, Class of 2017, has surprised himself. Despite "not diggin' the math" in general, one of his favorite courses so far has been linear algebra. "I just started seeing vectors all around me," he says. "Everything was a vector. The way that people were moving was vectors. I could see how my face was constructed in three—or four—vectors, if you consider time. I'm not even a math person, but that just sort of blew my mind."

Seeing the world through a mathematical lens is one of many unforeseen developments for Cox at UChicago. "If you could go back and tell my high school self, which was 'straight As, study, study, study,' that I would be joining a fraternity, I would have just laughed," he admits. But the Chicago native loves the sense of camaraderie and brotherhood he's found at Alpha Delta Phi. "I've met so many diverse people. We have brothers with all different majors, every different background. It's a great place for ideas to spread."

Cox learned of his Odyssey Scholarship during a difficult time for his family, as his mother was battling the stomach cancer that later took her life. Medical bills from the illness meant "I was looking for need-based financial aid. ... I knew that was going to be a factor." The scholarship lessened the family's financial strain. "I'm really grateful," he says.

As his fourth year begins, Cox is immersing himself in psychology classes and looking ahead to life after graduation, when he'll pursue a career in web design. After flirting with computer science and economics, he chose psychology as his major—not the most traditional preparation for his professional ambitions, but to his mind fitting. He hopes the data-handling skills and human behavior insights from his course work will help him build websites that work seamlessly for the people who use them. "I've had a lot of six-month 'I should do this' feelings," but his interest in web design has "stuck around for six years." Over the summer, he began teaching himself full-stack web development.

This quarter he's taking courses on the psychology of decision making and on sensation and perception. Both classes, he says, have revealed how often people mistakenly think their actions are logical—a subject that fascinates him. "You're vulnerable to these kinds of systematic errors in judgement. Studying them with the scientific method is important," he says. Over time he's honed his skepticism and learned to question "the truth in front of your eye, because it may not be the truth. That's UChicago for you."—*Susie Allen, AB'09*

Cox's first priority was attending a school "that was rigorous, that had really high academic standards." For Siddiqui, her scholarship tells her the University has "faith and trust in me as someone who will not only give back to the community but who will bring something out of their UChicago experience that will benefit the greater world."

HE'S HONED HIS SKEPTICISM AND LEARNED TO QUESTION "THE TRUTH IN FRONT OF YOUR EYE, BECAUSE IT MAY NOT BE THE TRUTH. THAT'S UCHICAGO FOR YOU."

PHOTOGRAPHY BY JASON SMITH

Ayesha "Ash" Siddiqui, Class of 2019

Ayesha "Ash" Siddiqui, Class of 2019, didn't think much about going to college when she was younger. Her parents, who went to college in India, were unfamiliar with American schools and her older brother had dropped out of a local Chicago city college to help with the family business, a travel agency.

When she started high school, her counselor encouraged her to start considering her higher education options. Her top choice became the University of Chicago when she was accepted into the University's College Bridge Program, which gives talented low-income students the chance to take UChicago classes for free. Siddiqui took Philosophy of Mind with lecturer **Benjamin Callard**, a course she still calls the most memorable one she's taken at the College so far. Class discussions were "very nuanced, very theoretical," she says, and the readings captured her interest. "It was very exciting, it was very new, it was very UChicago."

Now a second-year living in Snell-Hitchcock, Siddiqui is immersed in College life, serving as a registration aide during Orientation Week and competing on her house's Scav team. She's double majoring in anthropology and classics, with an eye on attending law school. Her first Metcalf Internship (all Odyssey Scholars are guaranteed one after their first year in the College) was with the Miami-Dade State Attorney's Office in Florida, where she provided administrative support to both prosecutors and victim/witness counselors, largely for domestic violence cases. She enjoyed helping explain the complicated US justice system to her clients—it was that complexity that sparked her interest in becoming a lawyer in the first place. "I was always attracted by the convolutedness" of the law, says Siddiqui, who litigates simulated cases with UChicago's Moot Court team during the school year. Seeing the day-to-day work of lawyers in the country's fourth-largest prosecutor's office reaffirmed her desire to attend law school.

But "I'm also the kind of person who has like five different backup plans," so Siddiqui is also considering pursuing graduate work in classics or anthropology. Right before her internship in Miami, she completed a five-week spoken Latin program in Rome and has since been thinking about studying ancient languages in other countries, a possibility she says stems from the education and the freedom her Odyssey Scholarship has given her.

"Having the privilege to even have backup plans of what I want to do—and thinking that those might even be feasible—is all due to the fact that I'm an Odyssey Scholar."

—Helen Gregg, AB'09

in memoriam

BIG THINKER

Nobelist James Cronin twice expanded our sense of the possible, first in particle physics and then in astronomical observation.

BY MARY ABOWD

After learning in October 1980 that he would receive a Nobel Prize, James Cronin, SM'53, PhD'55, hung up the phone and went about his day. The UChicago physics professor was taking his colleague Subrahmanyan Chandrasekhar's course on general relativity that morning, and instructed his secretary to hold his calls. "It was certainly a great honor to receive the Nobel Prize, ... but one should not let that fact go to one's head," he wrote in 2014.

Cronin, who died August 25 at age 84, never did (see Deaths, page 92). He was only 33 years old in 1964, when he and Val Fitch made their Nobel discovery, which began to untangle a mystery physicists had grappled with for decades: why the universe contains more matter than its oppositely charged (but otherwise equivalent) counterpart, antimatter.

Physicists had assumed that the laws of physics could not differentiate between the two, a postulation known as charge conjugation parity (CP) symmetry. But when Cronin, then at Princeton University; Fitch; and their small team at Brookhaven National Laboratory set out to verify CP symmetry, they instead discovered that nature operates differently upon matter and antimatter, and favors the existence of matter.

The finding was met with disbelief. "Initially scientists were very skeptical," says Cronin's longtime colleague **Angela V. Olinto**, the Homer J. Livingston Distinguished Service Professor in Astronomy and Astrophysics at UChicago. "They didn't believe nature would have this kind of preference." But the discovery lent credence to the big bang theory, helping to explain why the explosion left more matter than antimatter, enabling the formation of the solar system and human life. "Now we have connected that experiment to the reason we are here," Olinto says.

The finding upended scientists' understanding of the physical world, yet 16 years elapsed before it was recognized with a Nobel Prize. In the interim, Cronin continued his research, carrying out experiments in particle physics at research centers including Fermi National Accelerator Laboratory near Batavia, Illinois, and CERN, the European Organization for Nuclear Research, in Switzerland.

But during the 1980s, the epoch of experimentation conducted in small groups—what Cronin considered the "golden age" of high-energy physics—had given way to a research world dominated by large consortiums. In 1985 Cronin shifted his focus entirely, turning to the origin of cosmic rays: high-energy atomic fragments that shower the earth's atmosphere at nearly the speed of light.

"Jim was a driven man who liked to do things with his own hands and to have a leading role in whatever project he chose," says Cronin's friend and colleague Alan Watson, emeritus professor of physics at the University of Leeds. Watson recalls that Cronin approached his new endeavor with characteristic diligence, visiting several international cosmic-ray institutions, including Leeds, where the two met.

Low-energy cosmic rays are commonplace; those with higher energies are far rarer. To find and measure them calls for a giant detector. By the early 1990s, Cronin and Watson had embarked together on cofounding the Pierre Auger Observatory, the largest cosmic ray detector ever built, operated by a collaboration of more than 500 scientists from 17 countries.

For more than a decade, Cronin used his Nobelist status discreetly to leverage funds and interest in the project—from the National Science Foundation, the Argentinian government, UChicago, and even UNESCO, which sponsored scientists from developing countries to participate in its design. He and Watson traveled the world to attract physicists. Eventually a plan emerged to create a facility the size of Rhode Island, situated on a high, flat plain in rural Argentina.

The proposal seemed far-fatched, says **Paolo Privitera**, now a professor in UChicago's Department of Astronomy and Astrophysics, who attended an Auger collaboration meeting in Switzerland in the late 1990s when he was at the University of Rome. "I went to the meeting with a good dose of skepticism," says Privitera. "Encountering Jim changed my mind, and ultimately my career and life."

He remembers Cronin as approachable and eager to hear his younger colleagues' opinions. This "combination of a superior intellect and deep humanity was an irresistible pole of attraction, and I found myself—together with many other scientists of all nationalities—bound to push, together with Jim, for this 'crazy' (or better visionary) experiment."

From when they first met, colleague Paolo Privitera was struck by Cronin's "genuine, modest, down-to-earth personality."

PHOTO COURTESY ANGELA V. OLINTO

Since Auger reported its first results in 2004, physicists have traveled from places as far-flung as Australia and the Netherlands to the remote Argentine town of Malargüe to meet and run experiments. Cronin's leadership was essential, Privitera says: "A collaboration of physicists is like a rebellious orchestra with too many concertmasters. Jim—an extraordinary scientist and a visionary leader—was the charismatic maestro who would make them play in unison to deliver their best performance."

Cronin was born September 29, 1931, in Chicago, while his father, the first in his working-class family to go to college, was a graduate student in classics at the University. The family soon moved to the Dallas area, and Cronin earned a bachelor's degree in physics from Southern Methodist University in 1951. Arriving at UChicago for graduate school, Cronin felt woefully ill prepared. "Among my fellow students were many brilliant ones who possessed a far superior knowledge of physics than I did," he later wrote. To catch up, he audited upper-level undergraduate courses and devoted his summers to studying.

In his first year, Cronin took Nobel laureate Enrico Fermi's class on thermodynamics and statistical mechanics. Later he would call it his favorite, and would edit *Fermi Remembered* (University of Chicago Press, 2004), a volume about the nuclear physicist's life and career.

Cronin met his first wife, Annette Martin, EX'56, AM'88, while both were students at UChicago. They married in 1954 and had three children. Cronin's career began in 1955 at Brookhaven, where he worked as an assistant physicist. Three years later he joined Princeton, staying until 1971, when he became University Professor of Physics at the University of Chicago, his scholarly home for the rest of his career.

Cronin's busy research agenda never took him far from his wife and children. "Although my dad was very focused on physics, which was never a job for him but really a passion, he was very much a family man," says his daughter, **Emily Grothe**, LAB'78. Students and colleagues were regularly drawn into the Cronins' dinners, lively with "topical and provocative" conversations. When traveling to conferences and other professional activities, Cronin often brought the family for backpacking, canoeing, or sailing on the side.

When Annette became ill with Parkinson's disease in 2000, Grothe says, Cronin became his wife's primary caregiver. He learned to cook and carried on the family dinners until her death five years later. Olinto remembers running into him at the grocery store during this time. "He was buying fresh tomatoes to make her tomato sauce," she says. "I told him, 'You know you can buy that in a can,' but he said, 'Annette never used cans, and I am not going to start that tradition in my house.'"

In 2006 Cronin married Carol McDonald. He kept working on cosmic rays until his death. "Jim never stopped pushing the boundaries, attacking the next question, and furthering everybody else. He had a passion about nature and the laws of physics and how this universe behaves," says Olinto, who worked with him on the Auger project for two decades.

This past year, he and Olinto proposed the construction of an even larger cosmic ray detector that has not yet secured funding. Now she is moving forward with a prototype telescope that will launch from New Zealand in April 2017. The instrument's journey through space will be a tribute to Cronin, who wanted to transcend even his achievement with Auger, she says. "He told me, 'We should have built something 10 times bigger.'" ◆

sociology

SOCIAL CREATURES

In blues clubs, cocktail bars, and zoos, David Grazian, AM'96, PhD'00, investigates the artifice of authenticity.

BY CARRIE GOLUS, AB'91, AM'93

David Grazian, AM'96, PhD'00, likes penguins now.

A sociologist at the University of Pennsylvania, Grazian wasn't fond of animals, particularly, until he spent four years doing fieldwork for his book *American Zoo: A Sociological Safari* (Princeton University Press, 2015). While volunteering at two urban zoos, he came to feel genuine affection for the animals he cared for, even the cockroaches. But the penguins were one of his favorites, so that's where my tour begins.

At the Central Park Zoo on a Wednesday morning in late June, Grazian and I are watching them. The penguins swim and dive in their "old-school exhibit," as Grazian describes it, which has a painted background like a stage set. The rocks are made of poured concrete, he points out; some are hollow so they can be used for storage. It's this kind of artifi e that led Grazian to zoos as a research topic. The manufacturing of authenticity is a through line in his work, whether he's in a blues club, cocktail bar, or zoo.

His first book, *Blue Chicago: The Search for Authenticity in Urban Blues Clubs* (University of Chicago Press, 2003), looked at the disparate ways that tourists, Chicago residents, and musicians define "authentic" blues. None of their definitions is more valid than the others—authenticity, he writes, is "a figment of our collective imagination." What interests Grazian in *Blue Chicago* is the search for authenticity, and its power over the meaning we give our everyday experience.

His second book, *On the Make: The Hustle of Urban Nightlife* (University of Chicago Press, 2008), likened nightlife to a confidence game, with shills creating "an atmosphere of synthetic excitement." It dissected the artifice of Philadelphia nightlife: the staging and marketing of the clubs, and the self-conscious performances of their customers.

But after Grazian and his wife, New York University journalism faculty member Meredith Broussard, had a child, doing fieldwork at night "no longer seemed tenable nor all that appealing," he writes in *American Zoo*. He also found himself going to Philadelphia Zoo a lot, because his son loved animals. Grazian noticed similarities to blues bars and nightclubs, which all "feature backdrops of staged authenticity, tourist-packed audiences, a cast of performers and promoters," and more. In their distinct ways all three, he writes, are "stages for the performance of authenticity and fantasy."

Zoo visitors may think they're getting a glimpse of nature itself. But it's a sanitized, child-friendly version, with no waste, vomit , or dead animals on view. (At one zoo where he volunteered, "10:19" was zookeeper code for dead, as in the announcement, "*I have a 10:19 hourglass tree frog.*") Animals in a zoo, though protected from natural predators, are entirely dependent on their keepers for survival. The elaborate stagecraft behind their exhibits, Grazian shows, carefully balances the aesthetic expectations of viewers, the well-being of the animals, and the needs of other stakeholders, from donors to docents.

Grazian writes vividly about his fieldwork in *American Zoo*: "I shoveled cow manure and chicken dung, … clipped a ferret's toenails, … picked horse and donkey hooves, stuffed frozen feeder mice with vitamin E capsules, bathed tortoises, and exercised overweight rabbits." Like the rabbits, he lost weight, from a combination of the physical labor and a new revulsion toward red meat, caused by all the gross tasks involved in animal care. "You start eating a lot more salad," he says. On the downside, shoveling hay at the zoo not only set off his allergies but made his wife allergic to him too.

To round out his research, Grazian visited 26 zoos around the country, often taking his son along as a fieldwork companion and cover story. (He had discovered that as a 40-something man alone at a zoo, writing notes and taking pictures, he was perceived as threatening.)

Of all the zoos he's seen, his hometown zoo in Central Park, just six acres, remains a favorite. Opened in 1864, it's one of the oldest zoos in the nation. The location, "in the middle of a bustling city," is part of its appeal, he says: "The contrast is so glaring." But however strongly we feel it, the nature/culture dichotomy is false, he writes in *American Zoo*. Humans and their habitats are part of nature too, the zoo is a cultural production, and the boundary is "an imaginary one, important only to us."

Grazian's outfit on this warm day is vaguely safari-like: a cream-colored button-down shirt, beige shorts, sandals. Nonetheless we're searching for a snow leopard. A sign explains the animal can be tricky to see. "That's not a bad lesson," Grazian says. "Snow leopards aren't here to perform for you." After a few moments of searching, he adds, "It's

THE ZOO IS A CULTURAL PRODUCTION, AND THE BOUNDARY IS "AN IMAGINARY ONE, IMPORTANT ONLY TO US."

Grazian's unlikely scholarly path "from blues to zoos," as he puts it in *American Zoo*, proved to be a rich one.

PHOTOGRAPHY BY LUCY BAKER, COURTESY DAVID GRAZIAN

actually right there"—below us, napping against the wall of the exhibit.

A group of children presses against the glass above the leopard, oohing and ahhing. "Let's listen and hear what the kids say," he says quietly.

Grazian recently published a paper in *Social Psychology Quarterly* about how parents at the zoo socialize their children about gender. "*You would think the pretty one would be the female, but it isn't*," says one mother quoted in the article. As we walk away, he notes that these kids called the snow leopard "kitty" and used the pronoun "she." Usually, he says, "he" tends to be used "for something that can rip your face off."

In the rainforest exhibit mist begins to spray. Grazian takes off his glasses and wipes away the steam. Zoos are often organized by "bioclimatic zones," he says, which makes for some odd juxtapositions. The tropic zone jumbles together strange, colorful creatures from all over the globe; they would never live together in nature. A bit like the city itself.

At eight that evening I meet Grazian again, this time at the corner of Bleecker and Carmine in Greenwich Village. We're retracing his oeuvre in reverse chronological order: having taken in the zoo, we're going to a cocktail lounge, then a blues club.

In *On the Make*, his study of nightclubs, Grazian returned to a concept he introduced in his first book, *Blue Chicago*: the nocturnal self, "a special kind of presentation of self associated with consuming urban nightlife." The nocturnal self seeks what Grazian calls "nocturnal capital," competing with others to get into clubs and get the attention of bartenders and other clubgoers. Nightclubs, he writes, give young people the space "to perform an elaborated nocturnal self for an audience of anonymous strangers."

In graduate school, Grazian says, "I used to be a night person." When he wasn't doing his dissertation fieldwork at B.L.U.E.S. (on Halsted just north of Fullerton in Chicago), he was at rock clubs or dance clubs. He wrote at night; he did his class reading at Jimmy's. But at 43, Grazian has slowed down. Tonight his nocturnal self is wearing the same outfit as his diurnal self, except he's swapped the sandals for New Balance sneakers.

I trail behind Grazian as he crosses the street toward a familiar chain restaurant. "We're going to Five Guys," he says. I think to myself, *OK*.

At the back of the restaurant is a slim staircase. We are not going to Five Guys. We're climbing the stairs to a "secret" cocktail bar, the Garret. I have to laugh.

The Garret is long, narrow, and noisy. In *On the Make*, Grazian takes a decidedly dystopian view of such places. He calls them "aggressively competitive environments in which participants are forever *on the make*, challenging each other for social status, self-esteem, and sexual prestige in a series of contests, attacks, and deflections." For instance, a game for men is the "girl hunt"—as one research subject calls it—and a game for women is resisting the girl hunt.

Grazian orders a house cocktail, a First Lady. I would like a beer. But to be a participant observer at the Garret, in the tradition of the Chicago school of sociology, requires a cocktail, I think. I choose a champagne cocktail, the simplest drink.

Grazian doesn't discern much meaning in the Garret's decor. "Seems just like random kitsch," he says. There's a fireplace with an odd pile of books: encyclopedia volumes, *The Senate and the League of Nations* by Henry Cabot Lodge. "If you actually brought a book, and wanted to read, people would look at you like you were nuts."

We find an awkward spot at the top of the stairs. Grazian kindly agrees to keep my voice recorder in his shirt pocket and to analyze the room. "It's above a Five Guys,"

Grazian researched his first book, *Blue Chicago*, at B.L.U.E.S. on Chicago's North Side and 36 other clubs. He attended B.L.U.E.S. or its satellite club, B.L.U.E.S. Etcetera, two or three nights a week.

he begins, "as if it were a secret, but we don't live in an era of prohibition." The bar's hiddenness is a marketing tactic to "generate buzz and to manufacture this totally synthetic exclusivity."

A digital recorder is something Grazian didn't have when he was researching blues clubs, and "you weren't allowed to bring recording equipment into a blues club anyway." So he would take brief notes on a coaster. Afterward he would turn these "jottings" into detailed, thorough field notes. "It looked like I was writing down somebody's phone number," he says. "Because I was in my early 20s, my memory was much better. I could remember whole conversations in a way that I don't feel confident doing now." If he wanted to write down an exact quote, he would sneak off to the bathroom.

There are also memory tricks. If someone said, "'Wow, this is the coolest thing I've done since I've moved here,' I would look at them and I'd say, 'This is the coolest thing I've done since I've moved here. I love that.'"

Another thing that's changed since Grazian researched his first two books is that he's not the only one obsessively documenting. "Everybody's on their phones" now, he says. "In 2005 you couldn't take pictures on your phone and post them on Facebook. That's the document of your nocturnal self." "Here's the selfie," he notes later, as a group of revelers snaps photos with three different phones simultaneously.

In *Blue Chicago*, Grazian is very present as a participant observer; he even drags out his dusty alto sax and sits in on jam sessions. (In a sitcom-worthy moment, Grazian's desperate, off-key improvisations during his first solo are mistaken for free jazz.) But in *On the Make*—the book about upscale bars like the one we're sitting in—Grazian disappears a little bit. Why?

Nightclubs are filled with distrust, Grazian explains. At B.L.U.E.S. he could easily strike up conversations with strangers, especially tourists. If he tried a similar approach in nightclubs, "people thought I was coming on to them"—even couples. Groups of friends stay in tight clusters at nightclubs, as if in little gated communities. So *On the Make* relies heavily on interviews, focus groups, and firsthand narrative accounts of young nightlife participants. At one point, he does go out for cocktails with a group of young women, "with my wife's permission, of course," he writes, "although I did have to endure some marital ribbing."

Our final destination is Terra Blues on Bleecker Street, near where Grazian and his family live (he commutes to his job in Philadelphia). He's never been inside before, since he assumed it would be inferior to blues clubs in Chicago.

Bleecker Street was "the center of beat life in the '50s and the counterculture in the '60s," Grazian notes. "It was extraordinarily vibrant here, but now it's 50 years later, and it's all just souvenir shops." As a high school student growing up in Fort Lee, New Jersey, he used to sneak into Greenwich Village and play his sax for money in Washington Square Park. "So living here now is just like a dream to me."

Terra Blues is much more upscale than Chicago's divey B.L.U.E.S., which opened in 1979 and looks like nothing has been updated since. In his book Grazian describes it as having "the strange atmospherics of a dingy, down-home tavern colonized by an airport gift shop."

At Terra the stage is framed with a velvet curtain. There are tablecloths and candles on the tables; about a third of them are occupied. The wall of black-and-white photo-

graphs of musicians—a number of them from Chicago—"distinguish it as a blues club," Grazian says. "That's what every blues club would have in common: the Hall of Fame." Terra's customers look like they're in their 60s—the same generation who loved blues during the roots revival of the 1960s and '70s.

While doing fieldwork at B.L.U.E.S., Grazian always drank Budweiser. It was the cheapest beer on the menu, it was unobtrusive (unlike a premium beer he once tried, which came in a fancy glass), and—most important—he dislikes it. Drinking was "a necessary impediment to doing the work. In other words, I drank to fit in," he says. He still drinks it whenever he visits B.L.U.E.S., because some of the waitresses still work there and remember his usual.

"Are we required to have Budweiser?" I ask.

"Yeah. Yeah, we are."

The bottles arrive icy cold, with labels that read *America* (a summer promotion about authenticity that seems entirely appropriate). It's almost 10 and the house band, the T Blues Band, is about to go on.

Grazian first visited a blues club in 1995, as a first-year graduate student. He had planned to go to the Green Mill to hear jazz, but his friend **Chad Broughton**, AM'97, PhD'01, who now teaches public policy at UChicago, persuaded him to go to Kingston Mines for blues instead. They stayed until five in the morning. A few weeks later Grazian went to B.L.U.E.S., half a block down Halsted Street from Kingston Mines. The club, he wrote in *Blue Chicago*, "felt like the authentic blues club of my dreams."

One night electric blues guitarist Son Seals was playing and asked the crowd, "How many of y'all here from out of town?" As Grazian recalls, "It was this deafening roar. I was kind of surprised." The authentic blues club of his dreams was full of tourists who were chasing the authentic blues club of *their* dreams. A thesis topic was born.

THE AUTHENTIC BLUES CLUB OF HIS DREAMS WAS FULL OF TOURISTS WHO WERE CHASING THE AUTHENTIC BLUES CLUB OF *THEIR* DREAMS. A THESIS TOPIC WAS BORN.

In *Blue Chicago*, Grazian is not concerned with finding authenticity but exploring what different groups think is authentic. For tourists, race signifies authenticity; African American musicians are more authentic than white or Asian ones. Grazian recounts in the book how record companies in the 1920s labeled nearly all of their secular recordings by black musicians as blues.

For hard-core Chicago blues fans, authenticity is based on geography: a dive bar on the South or West Side beats a bar catering to tourists on the North Side. For professional blues musicians themselves, race and geography are not important. Authenticity—if they're concerned about it at all—is based on the skill of the musician. And many working blues musicians would rather play where they get paid the most; a tourist joint or a bar in the suburbs is just fine.

At Terra the T Blues Band launches into its first song. "It's exactly the same as you would hear at B.L.U.E.S.," Grazian says. "Chicago blues, straight-ahead Chicago blues." A moment later he shouts an enthusiastic "Woo!"

As the set goes on, though, it's not the typical standards you might expect—the "Set List from Hell," one musician calls it in Grazian's book. When the singer mentions Robert Johnson, I brace myself for another tired version of "Sweet Home Chicago." Instead it's "Love in Vain." "My guess is that most people in the room know the Rolling Stones version," Grazian says. Later the band diverges even further from the canon, first with Marvin Gaye's "Trouble Man," then with the lovely guitar solo that begins "Blackbird" by the Beatles.

"Wow," says Grazian. "Definitely the first time I've ever heard this in a blues club."

"You all got time to Google it and find out what year this was made," the guitarist challenges the crowd.

"1968!" Grazian calls out, no research necessary. "1968. *The White Album*." He's rewarded with a free beer—another Budweiser he doesn't want.

Meanwhile a group of women in their 20s, dressed as if for clubbing in short skirts and heels, has settled into some tables stage left. It's like characters from Grazian's second book have accidentally wandered into his first. Why are they here? "That's a good question," Grazian says. His guess: "They could be international tourists, and so they think they're having an American moment."

They stay for the rest of the set, then make their way up to the stage to take photos with the band—or in Grazian's terminology, to document their nocturnal selves.

He can't contain his curiosity. Grazian hasn't done ethnography in a blues bar for almost two decades, but he needs to know what their story is. He crosses the bar to ask. ◆

medicine

BEYOND BORDERS

Olufunmilayo Olopade is attacking cancer from all sides.

BY SUSIE ALLEN, AB'09

PHOTOGRAPHY BY JOHN ZICH

"I know that we can save many more women from dying from breast cancer," oncologist **Olufunmilayo Olopade** says, leaning forward in her chair. Olopade, who goes by Funmi, is sitting in her office at the end of a long day, surrounded by stacks of paper on her desk and shopping bags on the floor, but she sounds like she could be addressing the World Health Organization. "The drugs are there, the women are out there," she says. What's missing, in her view, is a will to diagnose and treat people, wherever they live.

Olopade, who specializes in breast cancer, sees cancer as a personal threat and a global one. She evinces impatience with the disease and with what she sees as a laggardly response to it, especially in vulnerable and at-risk populations. In the United States, black women are more likely to die of breast cancer than women of any other ethnicity. Globally, more than half of all cancer deaths occur in developing countries. Olopade, in her determined way, has made it her business not only to understand those numbers but to budge them. "What I'm really trying to do is to prevent any woman from dying from breast cancer if I can help it."

Her interests span medicine's most narrowly focused and intimate concerns—*Why did this particular woman get breast cancer? What distinguishes her tumor from other tumors?*—and its most sweeping. *Why is breast cancer more likely to be fatal in some populations than others? Why do women in developing countries die from cancers we know are treatable? Why is cancer on the rise globally? Why?* In her mind, small questions are inseparable from big ones.

This dual focus is "the mark of any great scientist, and especially a clinical scientist," says her colleague **Blase Polite**, AB'91, AM'92, assistant professor in hematology and oncology, and it's part of what earned Olopade a MacArthur Fellowship in 2005. Despite the hype about translational medicine (the ability to take scientific research "from bench to bedside," as the saying goes), "very few people do it well," Polite observes. "Funmi does it very well."

Olopade's approach to her work is catholic, incorporating clinical care, research into genetics and cancer prevention, and collaboration with doctors and public health experts around the world. Her mouthful of a title—Walter L. Palmer Distinguished Service Professor of Medicine and Human Genetics; associate dean for global health; and director of the Center for Clinical Cancer Genetics—appears to mean, in practice, "does some of everything" and, at times, "does a lot of everything." Her husband, pulmonologist **Sola Olopade**, jokes that every time she opens her mouth in a meeting she ends up on a new committee.

She is often in a hurry, partly because her schedule demands it—it's not unknown for her colleagues to receive early morning phone calls from China to discuss grant proposals—but also because restlessness appears to be her natural mode. When she talks about curing cancer and improving global health, the subtext often seems to be: *We know how to do this, so let's get on with it*.

Early in her oncology training, Olopade had a young patient with aggressive breast cancer. Despite multiple rounds of chemotherapy and a bone marrow transplant, the woman died. Everything they'd done failed to cure her cancer.

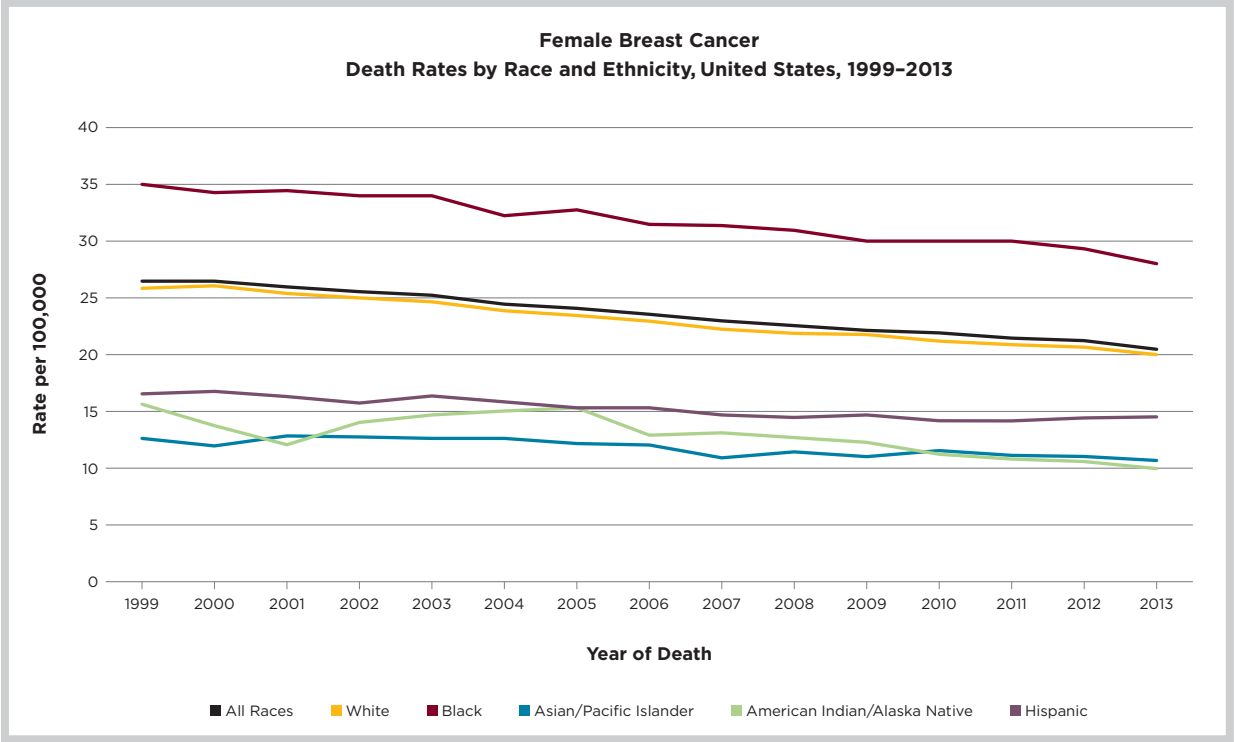
Olopade remembers it as a "watershed moment," one that convinced her it wasn't enough to tell women to get mammograms at 40 or 50—advice of no use to women diagnosed in their 20s. To help her patients, she needed to understand the root cause of breast cancer and why some women were more likely to get it than others.

She likes to say that breast cancer is not one disease, but many. Breast cancers are classified by factors including their location in the breast, by whether or not they've spread, and by the types of cells within the tumor. These different breast cancers demand different treatments. They may also have different origins, whether environmental, genetic, or a combination of the two.

It was Olopade's mentor Janet Rowley, LAB'42, PhB'45, SB'46, MD'48, who pioneered the idea that cancer stems from genetic mutations. In the 1970s, she identified chromosomal abnormalities responsible for three different types of leukemia. Rowley's discovery upended the conventional medical wisdom about cancer—previously, genetic aberrations like the one Rowley identified were thought to be a byproduct of the disease, not a driver of it—and ushered in a new era of medical research.

Cancer genetics was a burgeoning field when Olopade finished her internal medicine residency in 1986, and she applied for a fellowship in Rowley's lab. The timing was

WHAT I'M REALLY TRYING TO DO IS TO PREVENT ANY WOMAN FROM DYING FROM BREAST CANCER IF I CAN HELP IT.



In the United States, black women are more likely to die from breast cancer than women of any other race. Olopade believes this stems from differences in tumor biology as well as disparities in health care delivery.

GRAPHIC COURTESY CENTERS FOR DISEASE CONTROL AND PREVENTION, ADAPTED BY MEI MOY

fortunate. The early '90s saw breakthrough after breakthrough as researchers identified important genetic underpinnings for cancer. Early in her research career, Olopade identified a gene on chromosome 9 that plays a key role in preventing tumor growth.

In 1990, Mary-Claire King, now of the University of Washington, suggested that a defect in a gene on the long arm of chromosome 17 was responsible for elevating breast cancer risk. Four years later, a team of scientists identified the precise location of the gene, which they dubbed *BRCA 1*—the so-called breast cancer gene. (It also raises ovarian cancer risk.) The discovery of a second key gene, *BRCA 2*, followed in 1995. Individuals with these mutations have a 45 to 65 percent chance of developing breast cancer by age 70 and tend to get more fatal types. Today, in addition to *BRCA 1* and *BRCA 2*, researchers have identified several other genes that may be linked to breast cancer.

The discovery of *BRCA 1* and *BRCA 2* was revelatory. Women who had watched their mothers, sisters, and aunts suffer finally had an explanation—and hope for themselves and their daughters. They could opt for preventive mastectomies, have their ovaries removed, or take prophylactic courses of the chemotherapy drug Tamoxifen, which has been shown to prevent the development of breast cancer.

Convinced she could bring the benefits of genetic research to her patients, Olopade founded the University's Cancer Risk Clinic in 1992. Now the Center for Clinical Cancer Genetics, it provides genetic testing and guidance on disease prevention and management to individuals at high risk for cancer. It was the first clinic of its kind in Illinois and somewhat controversial at the time. Skeptics feared genetic testing might overwhelm patients and cause unneeded stress and harm. Others worried about patient privacy and genetic discrimination by health insurers.

But Olopade believed these genetic tests could save lives, and she was frustrated that they weren't more widely available. By the mid-'90s, patients with means were already paying steep prices to commercial labs to be tested for *BRCA 1* and *BRCA 2* mutations. "At present, the only women at high risk who are not being tested are those who are economically disadvantaged or uninformed. This situation is clearly unfair," Olopade wrote in the *New England Journal of Medicine* in 1996.

Olopade has been keenly attuned to medical inequity since arriving in the United States from Nigeria in 1983. She did her internship and residency at Cook County Hospital, which was filled with talented doctors, many of them immigrants like her, trying to deliver the best possible care in a bare-bones setting. In many ways, it was a great place to train. With time and money in short supply, doctors couldn't count on the latest tools and tests to help them, so they came to rely on their own knowledge and diagnostic skill. Olopade says the spirit of ingenuity and collaboration she learned in residency is something she carries with her, even though she has more resources at her disposal now.

Through the Center for Global Health, Olopade hopes to reduce health disparities worldwide. Colleen Denny, MD'12, took this photo of a newborn weighing day while working at a women's health organization in Tanzania with CGH.

At County, Olopade encountered many African American patients with a family history of breast cancer. "I was really curious about whether that was something peculiar to people of the African diaspora—whether it was poverty, or an underlying genetic factor we had not paid attention to," she told the *Scientist*. But at a busy public hospital, there was no time for research. "It was frustrating to feel that all the discoveries, all the advances, might not reach your patient, even though they are in the United States, in God's own country," which even then was spending more per capita on health care than any other developed nation.

Still, Olopade loved Cook County Hospital and connected easily with the staff and her patients. It's where she learned the importance of building relationships with the people she treats. Though she's gotten busier as her profile has risen, Olopade's patients still "become part of her life, and she treats them as she would someone in the family," her UChicago colleague Polite says. "When Funmi establishes a relationship with you, it's pretty serious."

Often that relationship centers on God. Olopade's father was an Anglican minister, and she still goes to church regularly at St. James Cathedral in downtown Chicago. "Nigerians are the most spiritual and the most musical human beings that you can imagine," she says.

She is open about her faith, which many of her patients appreciate. "Many of them want to know that, as they're praying, that you can pray with them." Smiling, she adds, "I will often tell my patients ... 'Pray for me to have wisdom—but take this medicine.'"

Despite the suffering she sees as an oncologist, Olopade's faith is unshaken: "The whole premise of faith is that there will be challenges in this world, and by being a believer, you're going to be able to overcome."

She warbles a line from "We Shall Overcome," then says, "If you're able to sing those spiritual songs, and if you're able to actually believe it, then that's your therapy." Medicine, she believes, takes many different forms.

When she began her fellowship at the University of Chicago in 1987, Olopade saw many African American patients with family histories of breast cancer and aggressive cases of the disease, as she had at County. Now she had time to figure out why.

Taken together, Olopade's pioneering work helps to explain why breast cancer often hits women of African descent earlier and harder than white women. Her research has shown that West African women are more likely to have triple-negative tumors, which don't respond to common treatments like Tamoxifen, and basal-like breast cancers, a virulent type of cancer that occurs frequently in women with *BRCA1* gene mutations. Olopade also coauthored a 2013 study that found many African American women with breast cancer had inherited genetic mutations, including *BRCA1* and *BRCA2*, that put them at higher risk for the disease.

PHOTOGRAPHY BY COLLEEN DENNY, MD'12

But Olopade thinks differences in tumor biology aren't the only reasons African and African American women have worse outcomes than others. "There remain variations by race and ethnicity in the quality of breast cancer screening that contribute to this disparity," she wrote in the *Journal of the American Medical Association* in 2015. Black women, she noted, often receive delayed and inadequate treatment for their cancer. And despite similar genetic ancestry, African women have higher rates of more aggressive tumors than even African American women, suggesting that environmental and lifestyle factors like tobacco use, diet, and chemical exposure matter too.

For years the data that existed about breast cancer was taken from a majority white population, so it's no surprise that treatments and research focused on the types of tumors they had. But more data and better data taken from a diverse sample—Olopade recently joined a National Cancer Institute consortium of researchers working on just this issue—means a clearer biological understanding of what puts someone at risk for breast cancer, regardless of their race. With a deeper understanding of the disease, Olopade hopes the focus can shift from "Who dies from breast cancer?" to "What can we do to prevent anyone from dying from it?"

That includes women in developing countries, where cancer is on the rise—partly because people are living long enough to get the disease. Olopade wants to help countries like Bangladesh, Malawi, and her native Nigeria "leapfrog" so they don't repeat the West's mistakes and setbacks. For instance, Olopade hopes to see foreign doctors learn about personalized risk assessment for breast cancer rather than just mammography.

This summer, through the Center for Global Health, which Olopade directs, a Nigerian radiologist came to the University of Chicago to train on the latest equipment so she can teach others back home. "They don't have to go through 30 years of bad imaging," Olopade explains. "We're going to train them on the best that we have here and hope that they can innovate on it."

THE WHOLE PREMISE OF FAITH IS THAT THERE WILL BE CHALLENGES IN THIS WORLD, AND BY BEING A BELIEVER, YOU'RE GOING TO BE ABLE TO OVERCOME.

The Center for Global Health formalized and broadened work Olopade and her husband, Sola, had been doing for years, returning to Nigeria to share what they'd been learning in the United States with doctors there. Now the center sends students from across UChicago to work and study in hospitals and clinics around the world. The center also brings international medical professionals to Chicago to study.

The two-way exchange, according to Sola, the center's clinical director, is especially meaningful to him. As a foreign-trained doctor himself, he knows how valuable these opportunities for study in the United States can be. When he and Funmi arrived in Chicago in the '80s, "there was no way we could come to an institution like the University of Chicago." He believes "if our students are going to be taking advantage of being out there, other people should be able to come here and take advantage of what we have."

Sola and Funmi met in medical school, and despite being a firsthand witness, he marvels at his wife's achievements. "I don't know how she does all that she does," he confesses. He says he feels no competition—she was, after all, the smartest person in their medical school class of more than 200.

An active sportswoman in her youth, Olopade has an athelete's drive and mental discipline. She does not allow herself hopelessness ("You can't be an oncologist and not stay positive," she says, as though this is very simple) or self-congratulation for having balanced her medical career with raising three children. "I knew that everything would work out," she says with equanimity. "I never felt that it wasn't possible."

The belief that difficult things are possible is one that continues to buoy her. When a patient asks a question she can't yet answer, it's not a source of frustration—just more motivation to continue her research.

Her mentor Rowley shared Olopade's sense of urgency and focus about cancer research. (A framed photo of Rowley, whom Olopade still respectfully calls "Dr. Rowley," hangs in Olopade's office.) Olopade was on sabbatical the last year of Rowley's life and visited her frequently. Together they talked about the disease they had devoted their lives to studying, the disease that was overtaking Rowley's body.

"I think because she herself was dying from cancer, she said, 'We've got to do more to find cures, to find treatments, to find better treatments, and those treatments have to come faster than the pace at which we're doing research now,'" Olopade remembers.

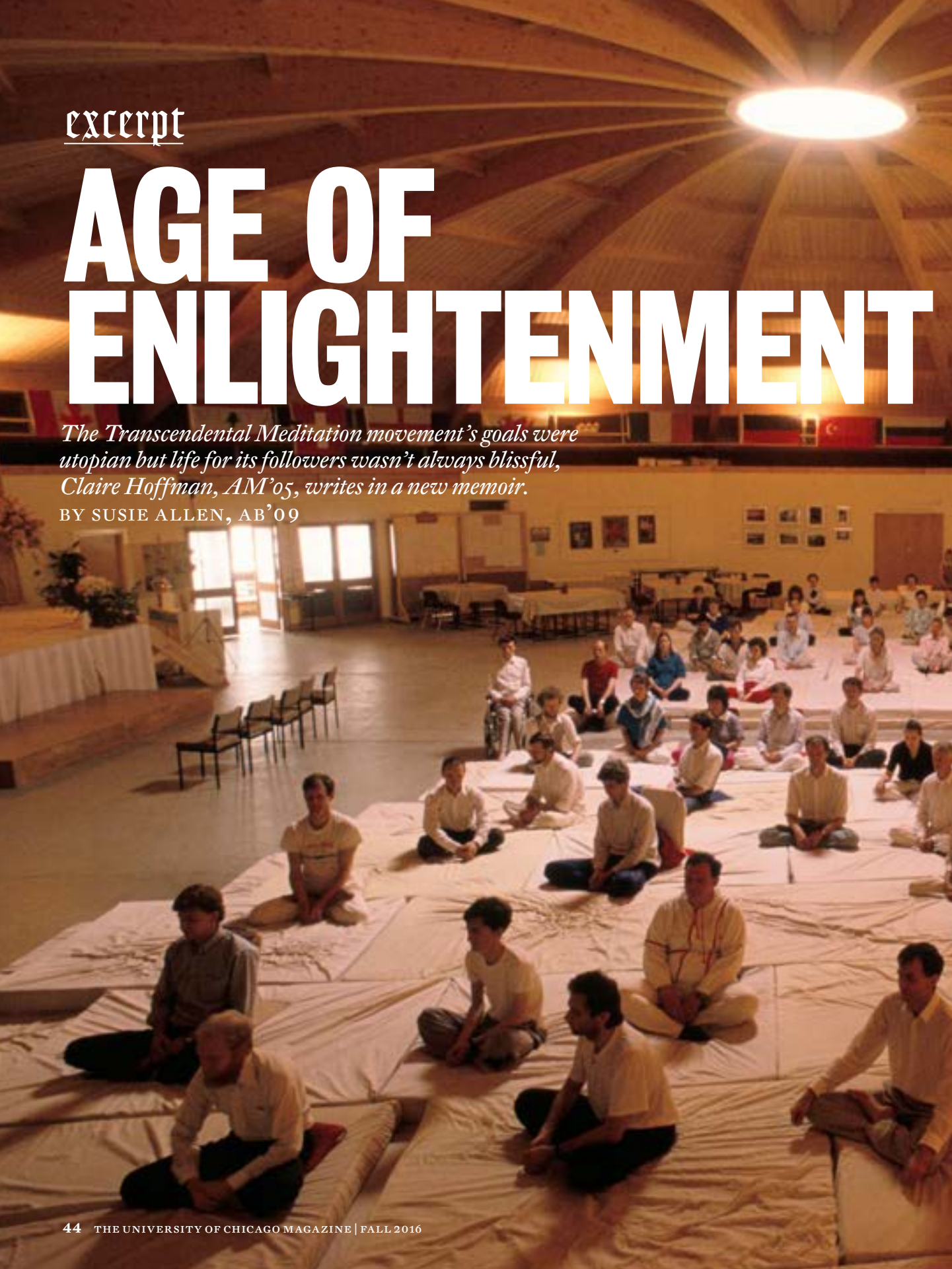
She believes the key to cancer prevention is to attack the problem from all sides, with the help of all possible allies. "We can't do business as usual," she says. There is no time to waste. ◆

excerpt

AGE OF ENLIGHTENMENT

The Transcendental Meditation movement's goals were utopian but life for its followers wasn't always blissful, Claire Hoffman, AM'05, writes in a new memoir.

BY SUSIE ALLEN, AB'09



Previous pages: Maharishi Mahesh Yogi believed group meditation inside Fairfield's golden domes would bring about world peace and create a utopia on Earth.

Throughout the 1980s and '90s, Fairfield, Iowa, was a city divided. There were townies, and there were "'rus," short for "gurus"—followers of the spiritual leader Maharishi Mahesh Yogi and his Transcendental Meditation movement. The 'rus flocked to Fairfield, the movement's headquarters, to meditate in newly built golden-domed structures for hours a day, believing they would usher in world peace. Reactions from the townies ranged from acceptance to rock throwing.

Caught between these two worlds were **Claire Hoffman**, AM'05, and other children of Maharishi's followers. For second-generation 'rus like Hoffman, Transcendental Meditation, or TM, was a lifestyle they were born into, not one they chose. Many grew disenchanted with TM and its leaders.

In her memoir, *Greetings from Utopia Park: Surviving a Transcendent Childhood* (Harper, 2016), Hoffman, now a journalist, looks back on a movement that offered its adherents a sense of purpose but strained under the weight of its own grandiosity. An alumna of the Divinity School who studied American religious history, she sees what happened in Fairfield as "a kind of fundamentalism," though she stresses that no one was ever prevented from leaving the community, and TM practitioners weren't cut off from nonbelieving family or friends. (It was a softer, "super-fun, nonthreatening fundamentalism," she says wryly.) Still, "there was a definite orthodoxy."

"I was living on the edge of two worlds, not quite belonging to either one," Hoffman writes of her childhood in the Transcendental Meditation movement.

The phrase around Fairfield was "Being on the Program," which "meant that you were following Maharishi's directions to become Enlightened," Hoffman writes. This involved twice-daily visits to the golden domes, built in the early '80s to facilitate group meditation. "Over time it came to mean more—that the way you ate, slept, built your home, wore your jewels, and looked to the stars were in accord with Maharishi's vision."

That vision extended back to the 1950s, when Maharishi first started teaching Transcendental Meditation around the world. (In the '60s and '70s, he was the guru of the Beatles and the Beach Boys.) The TM technique consists of silently repeating a mantra—a word, phrase, or sound. Studies show it's an effective stress-management technique, but Maharishi came to believe it could do much more.

The late '70s brought what Hoffman calls a "schismatic moment" for TM, when Maharishi introduced the TM-Sidhi program. He said the new program could give practitioners superpowers like levitation or invisibility. He also believed regular group meditation could bring about world peace. (In Fairfield the fall of the Berlin Wall was celebrated as proof of the movement's success.) Eager students handed over thousands of dollars to learn Maharishi's techniques. Hoffman's mother, Liz, was one of them.

Liz, a single mom, strove to keep her family on the program. At three, Claire learned the TM style of meditation, and she practiced it daily throughout her childhood. At the prviate TM school she attended, students were taught to embody Maharishi's Sixteen Values of Creative Intelligence, among them: "Active, *takes a* / Direction *toward* / Progress, *and* / Transcending, / Accelerates *the* / Integration *of* / Stability *and* / Adaptability, *and* / Enjoys / Evolution." Over the years, instruction in conventional subjects like math and spelling gave way to lengthy ruminations on the guru's teachings.

In different ways and at different times, Liz, Claire, and Claire's brother, Stacey, chafed against the restrictions of TM. Liz secretly took Claire to Chicago to see Ammachi, another Indian spiritual leader. Stacey's and Claire's rebellion took classic teenage forms—drinking, drugs, bad grades. From her first boyfriend, a fellow 'ru, Claire learned that the mantra she'd been given when she learned to meditate, which she'd always thought was unique, was the same as his. "Yet another fundamental truth of my meditation had been a lie. ... What had felt special for so long was not," she writes.

After leaving Fairfield to attend the University of California, Santa Cruz, Hoffman parted ways with the movement and stopped meditating regularly. She went to graduate school, first at the Divinity School and then at Columbia Journalism School, certain that writing about religion was her calling.

PHOTOGRAPHY BY MIKE GOLDWATER (PREVIOUS PAGES); © TIMOTHY GREENFIELD-SANDERS (CENTER)

YET ANOTHER FUNDAMENTAL TRUTH OF MY MEDITATION HAD BEEN A LIE. ... WHAT HAD FELT SPECIAL FOR SO LONG WAS NOT.

Her year at the Divinity School gave Hoffman a new sense of perspective about her family's experience with TM. "Places like the Baptist Church or the Methodist Church or the Lutheran Church were institutional and very normative to me," Hoffman says. But in their early days, some of these cornerstone churches were seen as "just as outside and fringe-y as the TM movement."

In her years away from it, Hoffman came to regard TM with a journalist's skepticism. To her, the movement reveals "how really intelligent people can believe really kind of crazy things," she says. When she first contemplated writing a book about her family's experience, she envisioned it as an exposé, unearthing Maharishi's hypocrisy and financial mismanagement.

The birth of her daughter prompted Hoffman to reevaluate her experience. As a harried working mother, she found she missed "the aura of magic and hope that had surrounded" her early years. She returned to Fairfield for an intensive meditation course, longing to "believe in believing again."

Today she's returned to regular meditation practice, though she's still wary of TM as a movement and exasperated when she sees news articles touting meditation as a cure for every ill. In fact, Hoffman considers herself "kind of a messed up, anxious weirdo," despite meditating for 36 of her 39 years. "It's not going to save you," she says.

Yet by writing the book she came to understand why people like her mother were drawn to TM, and how powerful their sense of purpose must have been. They took Maharishi at his word when he told them they were creating a utopia—a feeling she is more able to appreciate after her years away. "It was really kind of moving and beautiful to understand what it's like to be a pioneer and a believer in something," Hoffman reflects. "It's, as far as I can tell, a really incredible feeling."

EXCERPT

THE FIELD OF ALL POSSIBILITIES

BY CLAIRE HOFFMAN, AM'05

IMAGE COURTESY HARPERCOLLINS

We climbed into our rusted, wood-grained Pinto, Mom turned the key, and the engine sputtered and spat until it finally turned over. The car was freezing—underneath the front floorboards, a large hole had rusted out that winter, and even though Mom had put mats down, it was impossible for the car to get warm, and the smell of gasoline was overwhelming. Mom and Stacey began arguing again and I looked out at the snow-covered campus and tuned them out, trying to imagine myself as a fifties starlet being transported from my penthouse to a luncheon.

As we turned onto Zimmerman Boulevard, I saw a group of angry-looking people standing next to the entrance of campus, holding signs. "Hindu Cult," "Transcendental Meditation Is a Cult!" "Maharishi Brainwashes Followers."

I read the signs quickly, slightly terrified by the jagged hand lettering.

"Mom," I asked, "what is brainwashing?" I imagined someone pouring water into my ears, then sloshing it around.

She turned to look at the protesters, and then sped up, her face uneasy. "Those people are insane, Claire. Ignore them. Stay away from them."

Mom reached back and pushed the seat forward to let me out of the back. The Pinto shuddered and stalled, and

I looked around to see if anyone had noticed. I gave her a cautious smile, but she was staring forward, her shiny brown hair creating a mask around her face. She was still angry. I reached across the old cracked pleather seats and gave Mom a hug. Underneath her snowy boots, I saw the hole in the floorboard by the driver's pedal. Through the open wound of the rotting metal, the dirty snow of the street was just inches away.

"I'll see you at lunchtime," she grumbled.

It was around this time that I began to see cracks in the Heaven on Earth realm we'd been living in. My brother had watched his friend's father, Ed Beckley, fall apart after his Millionaire Maker program filed for bankruptcy in 1987. Ed was unable to make good on the money-back guarantee demands from the 40,000 customers who had paid $295 for his get-rich-quick program. Nearly all of his 560 employees were fired. (Later Ed was sentenced to federal prison for wire fraud.)

The First Age of Enlightenment Credit Union went into receivership in 1985 after it became overextended. A local "Siddha-owned" oil brokerage firm in Fairfield was ordered to pay over $100,000 in damages to an employee who said he was fired after driving a "rival guru" to the airport.

In 1989 International Trading Group Ltd. filed for bankruptcy after federal regulators accused the commodity firm of bilking investors of more than $450 million. The Fairfield office was, in those final years before it went bust, reportedly the top money producer for the national firm, according to the *Chicago Tribune*. Now it was closed and many of the meditators who worked there were scrambling to find other jobs.

When I was in sixth grade, Maharishi decided that we would become experts in something called Vedic Math. One morning, we all lined up, then headed outside under a flat gray sky, the wind cutting across the open plains with a wicked bite. The girls around me fell off into small groups, and I found myself walking to the side, preoccupied with my own thoughts.

In my pocket, I had a vial of lip gloss that I had talked my mom into buying for me at the drugstore. It was called Kissing Potion, a name that I found totally humiliating, but I was too interested in the wet look that it offered to let the name put me off. I whipped out the small, clear tube and ran a dab over my lips, then stashed the tube away before anyone could catch me preening. Across the meadow, the boys' class was walking toward us, led by their teacher Mrs. Greenley.

We met at the center of the field, and I stared down at the ground, avoiding eye contact with any of the boys. Mrs. Greenley and our teacher Mrs. Hall greeted each other with a perfunctory "Jai Guru Dev" and traded groups. Some of the bolder, early-breasted girls had made friends with the boys and they said hello to each other in a sophisticated and enviable way.

We followed Mrs. Greenley the rest of the way up the hill into her classroom. She was my least favorite teacher, the mother of my least favorite classmate, Erin. The sixth-grade boys' classroom was on the opposite side of the lawn from ours. With its high wood ceilings and dark green indoor/outdoor carpeting, it had been the TV lounge for the old Parsons College dorms, and it retained a slightly seedy, dank smell. As we filed in, Mrs. Greenley told us to go find a spot in the corner for guided meditation.

I sat down at a desk, feeling anxious. Math was a subject that had never particularly challenged me until this year. I had a robust memory and had easily memorized all the multiplication tables. Mom was good at math, and said it was in our genes. "Your grandfather is an engineer, you can do this," she would say when helping with my homework. It seemed to work—until that fall.

We had been told that Vedic Math would be blissful for us but it hadn't been for me. The computational methods were based on sixteen sutras that are directly derived from Atharva Veda, one of the four main branches of ancient Vedic literature. Our teacher told us that Vedic Math made everything easier by replacing large numbers with small numbers and breaking computations down into simple steps that you could do in your head. She also said that Maharishi had said the practice of Vedic Mathematics helped to create a general state of awareness, while at the same time focusing on a specific point. Cultivating that ability to maintain the wholeness while focusing on the parts of knowledge, he said, would allow us to live (even more?) in accord with Natural Law.

How did it work? For example, to multiply, you used the third sutra, Urdhva Tiryagbhaym, which meant "vertically and crosswise." A sutra was just like a mantra, but instead of a sound, it had a meaning. Instead of doing 33 x

IT WAS AROUND THIS TIME THAT I BEGAN TO SEE CRACKS IN THE HEAVEN ON EARTH REALM WE'D BEEN LIVING IN.

Some say John Lennon was inspired to write "Sexy Sadie" after a dispute with Maharishi. The song's original first line was "Maharishi, what have you done."

PHOTO COURTESY NATIONAL ARCHIVES OF THE NETHERLANDS

12, you would use the "unit digits" 3 and 2, multiply them and get the number six. That was the vertical answer. Then, Mrs. Greenley said, the units digit of each number is multiplied by the tens digit of the other number and these two numbers are added. I was bleary eyed at this point—were we still talking about numbers or was this an SCI [Science of Creative Intelligence] lesson with some hidden philosophical message?

Mrs. Greenley continued, writing on the board. The crosswise multiplication would give the answer: (2 x 3) + (3 x 1) = 9. Nine, she said, was the tens digit of the answer. Then the two tens digits are multiplied, vertically, to get the hundreds digit of the answer, three. Three, nine, six! She wrote out the numbers on the board, and it was as if she had completed a magic trick. It seemed more complicated to me than it needed to be, but Mrs. Greenley insisted that we show our work on the page. For guidance, she had hung a long handmade banner on the wall, next to Maharishi's principles of SCI, which listed the sixteen sutras.

"Even young children take delight in this approach to mathematical problems. Their faces shine with joy and amazement as they learn to add, subtract, multiply, and divide," one of the math teachers was quoted as saying in an article about Vedic Math in the school newsletter. "Often the children burst into peals of laughter as they quickly move through long rows of previously tedious computation."

As for me, I was utterly confused by even basic questions of multiplication. Although the Vedas were credited as the basis for all of the Knowledge that our Movement followed, we didn't actually read any of them. Instead, our knowledge came from Maharishi's Enlightened illumination and translation of them. The way my teachers explained it, he was able to bypass the extra stuff that Hindus and Indian civilization had layered on over the centuries, motivated by human history and greed. Maharishi's translation of the Vedas was essential and pure.

Living in Iowa in the 1980s, it seemed that Maharishi seemed intent on making Fairfield—and our lives here—more closely resemble the ideal ancient Vedic civilization he was always envisioning.

Sometimes this brought true blessings, at least if you were a kid. That year, word was sent down that—in order to have a more blissful Vedic family experience—we should have a two-hour lunch break during the school day. Our teachers had seemed a little stunned when they delivered this news to us, perhaps wondering where that extra hour of class time was going to come from. Mom wasn't thrilled either—there was panic in her voice when she got the sheet from school. "What am I supposed to tell them at work?" she asked. "I get paid by the hour! That's two less hours!"

I was, however, thrilled, because we were spending less and less time doing actual schoolwork. After all, work was effort and life was meant to be effortless. The school administrators argued that we didn't need as much "time on task" since our consciousness was being raised by Maharishi's programs. Science, Maharishi said, was the language of the West. In order for Americans to understand something, it had to be scientific. On the walls of our classrooms and everywhere you looked on the Maharishi university campus, there were elaborate charts and diagrams showing how Maharishi's interpretation of Vedic knowledge was scientific. What did "scientific" mean? It meant that you could prove that Maharishi was right. There were laboratories on campus where scientists worked for years, proving that Maharishi's Knowledge was scientifically accurate. More and more, Maharishi's Vedic Knowledge seemed to be flowing into our community at an unstoppable pace, codifying every aspect of life.

But the Vedic science that came to monopolize our lives was Maharishi's Ayurveda, his interpretation of the ancient Vedic science of health and the body. Overnight, Ayurveda became the organizing principle of how members of our community looked at themselves and the way they lived their lives. According to Ayurveda, there are three different body types, or doshas—Vata, Pitta, and Kapha. These correspond, respectively, to air and space, fire and water, and earth and water. Maharishi didn't want us just to understand our individual doshas but encouraged us to see the whole world according to this division. There were Vata, Pitta, and Kapha times of days, seasons, qualities, tastes, and so on.

Maharishi sent doctors from India to come to Fairfield and visit the Maharishi School. A creaky old Indian man named Dr. Triguna taught us how to take our own pulses and diagnose any imbalances in our doshas. A handsome young doctor named Deepak Chopra, who we were told was Maharishi's personal physician, came and talked to us about meditation and physiology. At a

school assembly, he also lectured us on balancing our doshas to connect with the Unified Field. Everything was about curing imbalance, smoothing out any physiological irregularities so that we could be a perfect reflection of the Laws of Nature.

Now, every moment of every day had a prescription from Maharishi on how to be and how to act. According to Ayurveda, one should awaken at six o'clock in the morning so as best to align oneself with the rhythms of nature. Instead of rolling out of bed and taking a shower, we were meant to give ourselves a full body massage—an abhyanga—using Maharishi Ayurveda oils (also chosen according to our specific body constitution or dosha). This was followed by tongue scraping, gargling with oils, body scrubbing, copious herb taking, and then of course asanas, pranayama—breathing techniques—and finally a lengthy meditation.

Maharishi Gandharva Vedic music was the sound track we were supposed to play throughout these lengthy prescribed rituals. We were told it was to be kept playing in empty rooms when you weren't there in order to balance the energy of your living space. The wiry sound of the sitar, the pounding of the tabla, the tinkling keys of the santoor—this was a constant backdrop wherever I went—coming from small CD players in empty rooms set to play the healing sounds on a loop. The music was selected according to the season and the time of day, again, to be better aligned with nature.

Even at school, before our twice-daily meditations, we had to do asanas, and then pranayama breathing, and then five minutes of taking our pulse to balance our doshas. Lunchtime was equally ritualistic. The lunch hall was filled with people who were in the midst of a popular Ayurvedic cleanse—panchakarma—which required them to get daily enemas, eat a strict and spare diet, and take lots of herbs along with spoonfuls of ghee, or clarified butter. They received hours-long oil massages at the Maharishi Ayurveda Clinic that had opened on the edge of campus, and soon it felt like every meditator had a slightly greasy sheen. The women wore soft pastel-colored turbans to hide their oil-soaked hair. Those turbans became a status symbol of sorts—these women were aggressively pursuing Enlightenment.

EVERY MOMENT OF EVERY DAY HAD A PRESCRIPTION FROM MAHARISHI.

After our two-hour Vedic lunch break, we'd read from the Rig Veda in history class. In the afternoon, we had thirty minutes allotted to listen to Maharishi Gandharva Veda, which Maharishi said would raise our IQs just by the sound of a CD of his trademarked sitar and tabla music. We started taking Gandharva Vedic music classes once a week. I plucked away halfheartedly at a sitar with an old Indian man who spoke almost no English and seemed vaguely contemptuous both of us and of rural Iowa. Sanskrit, first introduced during our SCI classes as a way to get closer to the Ved, would become a language requirement. In science, we'd learn about how Maharishi's principles were clearly illustrated even in the process of photosynthesis—Life Is Found in Layers, Inner Depends on Outer.

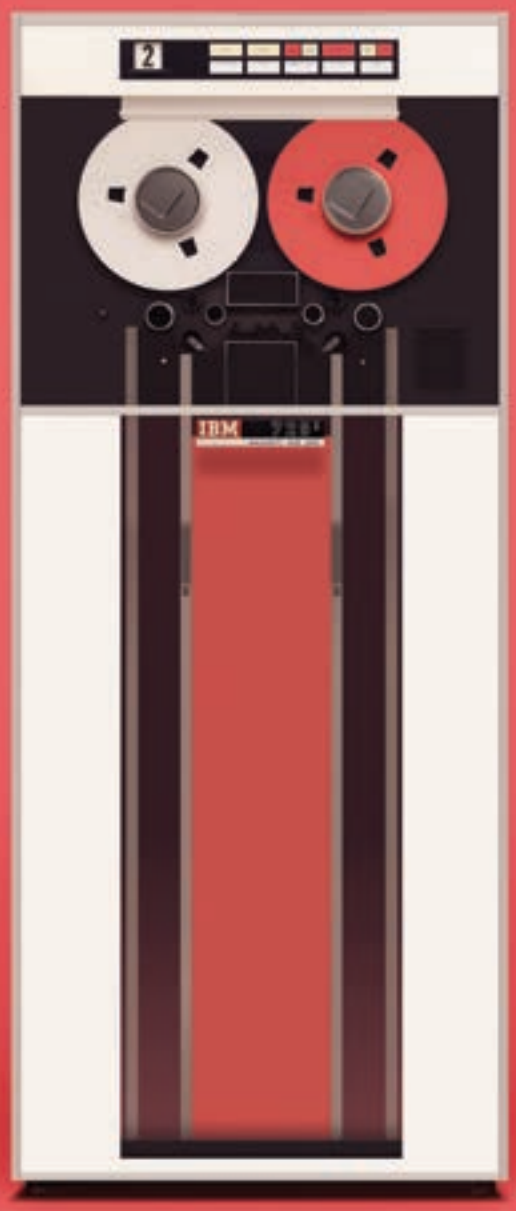
Our school play that year was also based on Maharishi's principles. Each elementary school kid would shout one of these principles after acting out one aspect of nature's perfection. The kids in overalls, dressed as farmers, plowed the "Field of All Possibilities," because as Maharishi said, "The Field of All Possibilities Is the Source of All Solutions." I was assigned the role of a Southern belle, and was part of a group of about eight girls who waltzed across the stage, wearing gingham dresses and singing in a high falsetto about the wonders of such a perfectly functioning world. "How do the waves know when to wash to the shore," we sang along, making a feminine little frame around our faces as instructed. "Oh what a bright, bright, intelligent world we live in!"

Positivity was paramount at the Maharishi School. We were told to always focus on the blissful aspect of life, and avoid negativity. One day, Mom got a call from one of Stacey's teachers, reporting that he had been drawing monsters in art class. Monsters were not part of Bliss Consciousness. They suggested maybe Stacey might be un-stressing and needed some guidance. Mom pushed back—there were few areas that held higher ground for her than Maharishi's Knowledge, and art was one of them. Stacey had been drawing monsters for as long as I could remember and Mom encouraged him as he developed them as googly-eyed, long-finger-nailed characters.

"Keep drawing the monsters, Stacey," she told him. "But maybe just draw them at home." ◆

NEWS FROM THE UNIVERSITY OF CHICAGO PHYSICAL SCIENCES DIVISION

2016 INQUIRY



NOTE FROM THE DEAN

A calculated investment

When the computer was invented depends on your definition of "computer." Was it Charles Babbage's Difference Engine (page 64), designed in the mid-19th century but never built? Was it Bell scientist George Stibitz's 1939 "Model K" Adder? Regardless of your definition, history proves these computer things are more than a flash in the pan

Not just scholarship and education but the very human experience has been transformed by computation. Of growing scientific and societal importance, the field of computer science is at the heart of this transformation. In the past few years, our computer science department has grown by more than a third. With the appointment of Michael Franklin as the Liew Family Chair of Computer Science, the department continues its faculty expansion, building on its excellence in theoretical research and further strengthening its systems research expertise.

The department is also committed to a new focus on data science. Research in virtually every discipline yields massive data sets, while progress simulating complex systems offers platforms for unprecedented analysis. A solid data science sector both reflects and supports the broad influen e of computer science.

With the expansion of the department's size and scope and the growing culture of engineering that gave rise to the Institute for Molecular Engineering, we have the opportunity to reconceptualize the computer science department. In a university-wide commitment, computer science will integrate fundamental, engineering, and social science research to drive collaboration across divisions.

To that end, in 2018 the department will relocate to the renovated John Crerar Library, which will also house the Computation Institute, the Research Computing Center, and a computational commons that will support computational services and education. This move is yet another step toward the division's goal of having every department in new or renovated space by 2022.

UChicago's computer science department will serve as a center of gravity to address intense computational problems, to advance data-oriented research, and to serve as an incubator for new ideas and technologies.

Who knows what computers will look like in 100 years. But they'll probably be handy, and we plan to have a hand in that future.

With all best wishes,

Rocky Kolb

Edward W. "Rocky" Kolb
Dean of the Physical Sciences Division

COMPUTER SCIENCE

Scaling up

New computer science chair Michael Franklin discusses the past, present, and future of computation.

Data science scholar, entrepreneur, and software developer **Michael Franklin** has begun his appointment as the Liew Family Chair of Computer Science and senior adviser to the provost on computation and data science.

Franklin joined the University this July from the University of California, Berkeley, where he chaired computer science and led the Algorithms, Machines, and People Laboratory. At UChicago he leads the department in a major expansion of faculty, educational programming, and outreach, increasing the scope and impact of computer and data science and building collaborations on and off campus.

Tell us about your experience in data science.

I've been in the field of databases and data management about 30 years now, investigating how to work with data across different types of computing environments. Most recently my work has involved scalable analytics, where you build systems that can expand as the amount of data needing to be analyzed grows.

I also work with processing data on small devices—how to do data processing in a highly distributed, highly unreliable network. Human computation in crowdsourcing is also of interest—how to get groups of people connected by a network to collect data to solve analytics problems, like reporting traffic, pointing a telescope at the sky, or carrying air pollution sensors.

What exactly is data science?

The term "data science" grew out of industry—web-based companies like Facebook and LinkedIn who were gathering increasingly rapid streams of data. It was obvious that there was value in this data, but they needed a way to extract it. The software, hardware, and even theory that traditional analysts had been using weren't adequate for the volume and diversity of data and the types of questions these companies wanted to answer.

So a new field arose that involves concepts from computer science and statistics, as well as applied math and social science. It spread from industry to academia, but because of its breadth, it's a challenge to figure out exactly where data science "lives" on a university campus.

What are your plans to bolster the CS department?

What's exciting about the University of Chicago is an eagerness to engage with computer science, statistics, and applied math and to work on and solve computationally intense problems.

PHOTOGRAPHY BY JASON SMITH

We need to continue this process of scaling up the computer science department in core areas as well as outreach to other fields. We also need to build on the interdisciplinary work that's traditionally been done at UChicago, particularly projects housed in the Computation Institute. We have a committee working to define the future of the CI and how it will relate to computer science and other departments and divisions as an intellectual nexus for computation and data-oriented research on campus.

Beyond campus, CERES—a center for unstoppable computing—is a project involving UChicago faculty and corporate partners. The city of Chicago has a growing tech ecosystem, and UChicago is poised to increase interaction with city government and business. A strong computation effort will be key to those engagements.

How has computation changed research in fields like social sciences and humanities?

Computation has changed research in almost every field. It's easier to collect interesting data about the behavior of individuals and large groups. The challenge is finding the signal in all that noise. If you can find it, you can see things that weren't visible before.

And it's a two-way street; social science is also going to have a huge impact on computer science because computing has become deeply ingrained in everyday life. Advances in computing will depend on understanding how people interact with technology. My plans for the department include building bridges and training students to move comfortably between traditional, technical questions and also social science questions.

How far are we from integrating computational devices directly into our bodies?

I don't know, but the trend is clear. Most people already have a cell phone stuck to the side of their heads.

Should we be worried?

With any technology there's potential for great benefit and fear. Part of computer and data science education is teaching students to think about the broader impacts and ethical implications of what they're doing and the technology they're building.

Was there fear during the early days of computers?

There's always been nervousness around any sort of automation. Industrial Revolution workers feared machines would displace them. Mechanical looms were a popular target for British Luddites, who destroyed machines in protest over low wages and poverty. The "programmable" Jacquard loom—one of the inspirations for early computers (page 64)—was fiercely opposed by Parisian silk weavers.

And for computers, absolutely. Look at science fiction. Isaac Asimov—who wrote dozens of robot-based short stories and novels—defined three laws of robotics to make sure robots didn't harm people. There's always concern, but it can and must be managed.

How did you get involved with computer science?

When I was a senior, my high school got a new computer. It wasn't a fancy school, so it was a big deal. I signed up for the class, and it turned out I had an aptitude for it. One day my computer teacher made an offer: if I would write a certain program for him, he'd give me As the rest of the year and I could do whatever I wanted.

He had a friend teaching at another school who was bragging about their new computer and the programs they got for free. Evidently my teacher said, "Well, one of my students could write those programs." And they made a bet.

When I think back to that program, I cringe because I now know how I could have written it so much better. But it worked, and my teacher won the bet. —*Maureen Searcy*

PHOTOGRAPHY BY ROBERT KOZLOFF

PSD dean Rocky Kolb and professor Andrew Chien join Michael Franklin at the CERES research summit last winter.

PHYSICS

A unified theory

The Physics Research Center will unite theorists and experimentalists for the first time in half a century.

In 1961 University of Chicago faculty members conducting space exploration research were spread across and off campus. Physicist John Simpson—a pioneer who flew the first cosmic-ray experiments to Mercury, Mars, Jupiter, and Saturn—proposed a building to unite them: the Laboratory for Astrophysics and Space Research.

In an August 1962 meeting with LASR's architecture firm, Simpson explained that the building would be a departure from the classic physics laboratory. "The physicist must be around but not on top of the applied physicists," he said, suggesting that blackboards be located in strategic points to facilitate collaboration during casual meetings.

Completed in 1965 at 933 East 56th Street, LASR featured a foundation and roof designed with future expansion in mind. Fifty years and 15 Nobel Prizes in Physics later, the University is fulfilling Simpson's vision, adding two floors and undertaking extensive internal renovations to create the University's new Physics Research Center. The building, to be completed in summer 2017, will offer research space for advanced detectors and neutrino, accelerator, and gravitational wave physics.

Simpson's faith in the casual interchange of ideas endures. With offices and laboratories for the Enrico Fermi Institute and the Kadanoff Center for Theoretical Physics, the Physics Research Center will unite theoretical and experimental physicists under the same roof.

Inquiry asked a theorist (associate professor **LianTao Wang**) and an experimentalist (assistant professor **David Schmitz**) how the new facility will affect physics research.

What type of physics do you study?

LW: I work on theoretical high-energy physics, on topics including the properties of the Higgs boson, dark matter in the universe and its signal, and new physics at the Terascale—named for the teravolts (10^{12} volts) of particle accelerator energy produced at the Large Hadron Collider at CERN. My research includes theoretical calculation and derivation, as well as interacting with experimental groups.

DS: Our group studies the physics of neutrinos—the lowest mass but most abundant of the fundamental matter particles that we know. They are electrically neutral and only interact through the so-called weak nuclear force and gravity, which makes them challenging to study but also

Breaking ground—again

When UChicago physicist John Simpson proposed the Laboratory for Astrophysics and Space Research—the first government-sponsored center of its kind—he envisioned not just a structure but an interdisciplinary intellectual space.

"There is great value in the casual interchange of ideas and information between all levels of scientists and engineers as these individuals move about the building performing their various tasks," Simpson told LASR's architects at a 1962 meeting.

On May 1, 1963, Simpson (far left), along with University president George W. Beadle, board of trustees chair Glen A. Lloyd, director of NASA grants and research Thomas L. K. Smull, and chief of NASA lunar and planetary sciences Urner Liddel, broke ground on the new LASR building. With the planned renovation and adaptive reuse, the new Physics Research Center will preserve Simpson's vision.

UCHICAGO PHOTOGRAPHIC ARCHIVE, APF1-00408, UNIVERSITY OF CHICAGO LIBRARY

With two more floors and internal renovations, LASR (left) will transform into the Physics Research Center (right).

makes them a unique and exciting probe of a range of phenomena in the universe. Our group is interested in neutrino oscillations, the process by which they transform between different "flavors."

We are trying to answer whether neutrinos could explain why matter came to dominate over antimatter in the early universe instead of just annihilating each other into a structureless sea of photons. And we are searching for new types of particles called sterile neutrinos, which interact with matter only through gravity.

How might collaboration between a theorist and an experimentalist benefit your research?

LW: A key ingredient of my work is taking inspiration from data, to develop new ideas that can be tested by experimentation and new strategies to look for interesting signals. This cannot happen without active interaction with my experimental colleagues.

DS: In particle physics we are in an exploratory period, trying to figure out where the cracks are in our model of how the universe works. It's critical that experimentalists, who develop the methods to search for new phenomena, and theorists, who provide guidance on where they could or could not be hiding, work together closely. The theory community can also provide important input on dealing with certain systematic uncertainties that impact experiments, so regular communication is vital.

How will the Physics Research Center support research in ways that current facilities haven't?

LW: The renovation of LASR promotes the interaction between experimentalists and theorists as well as between different areas of theoretical physics, which is crucial to catalyze progress.

More than just nice new offices and dining areas, the Physics Research Center will offer faculty, students, and staff a better chance to run into each other—motivating the exchange of ideas and inviting discussions.

This is a distinct feature of many leading institutions. I cannot remember how many times new ideas were born from frequent and spontaneous interactions among colleagues in such spaces.

DS: The renovated facility will be a hub for particle physics research on campus and the Chicagoland area. State-of-the-art detector development will take place across the hall from regular seminars on cutting-edge theoretical ideas. Graduate students and postdocs researching in different fields and working in both experiment and theory will work in close proximity, facilitating more serendipitous exchange of ideas in addition to the more formal channels. This is important to their education as well as to the progress of our research.

What physics mystery, whether in your field or in another, do you most want to see solved during your lifetime?

LW: The mechanism of the electroweak symmetry breaking and how it's connected to other deep questions, such as gravity. Also the nature of dark matter.

DS: If I have to pick just one mystery, then I'd say detecting some form of dark matter and perhaps opening the door on a whole "dark sector" of matter. The Standard Model of Particle Physics is such a triumph, yet it only tells us about 5 percent of the content of the universe.—*Maureen Searcy*

IMAGES COURTESY PERKINS EASTMAN

astronomy

Lonely planets

Astronomers and planetary scientists debate if and when we'll find extraterrestrial life.

BY MAUREEN SEARCY

The event: an Oxford-style debate. The occasion: a celebration of the Department of Astronomy and Astrophysics's 123rd year, in conjunction with the University of Chicago's 125th anniversary last fall. The place: the William Eckhardt Research Center, the department's new home.

The proposition: by the end of 2042—significant for being 150 years after the department's founding—remote sensing will reveal evidence of extant life on an exoplanet. The fine print: we don't have to physically visit the site; evidence does not mean certain proof; organisms must be currently living; and life forms need not be intelligent. The winner: to be determined by audience vote.

The finer print: the debate deals with life as we know it; alien life could be so alien we might not even recognize it.

WE ARE NOT ALONE (PRO)

DORIAN ABBOT, ASSOCIATE PROFESSOR OF GEOPHYSICAL SCIENCES

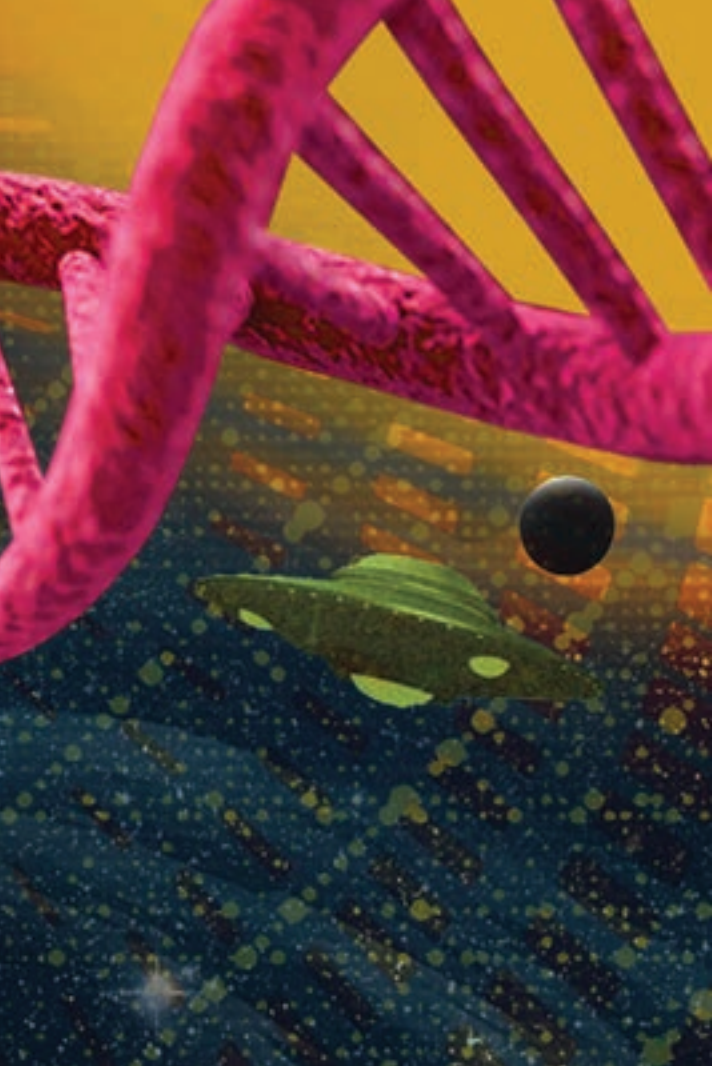
Abbot launched the arguments for why we would find life with five points supporting the claim that life is common, particularly microbial life.

1. Earth-like terrestrial planets are plentiful in the universe, as revealed by the Kepler mission, offering ample opportunity for habitable environments.
2. "The raw materials for life are everywhere," said Abbot. Hydrogen, oxygen, carbon—they can be found on asteroids, moons, other planets, and in interstellar space.
3. As far as scientists can tell, life arose on Earth about as soon as it could have. Earth is 4.5 billion years old, and the earliest geochemical evidence of life appeared 4.1 billion years ago. "If you get those conditions elsewhere, you're probably going to get simple life."
4. Life thrives on Earth in extreme conditions, like in hot springs and deep-sea vents and Antarctica.
5. Life is resilient. "Once it arises, it's hard to get rid of," said Abbot. Asteroid impacts, hothouse climates, and "snowball Earth" events that froze the entire planet—despite mass extinctions, microbial life has persisted.

LESLIE ROGERS, ASSISTANT PROFESSOR OF ASTRONOMY AND ASTROPHYSICS

Rogers discussed how we would detect life through observation and measurement of biosignature gases. "Even simple life will modify its environment," said Rogers. "No matter

COLLAGE BY JOY OLIVIA MILLER



Are we alone in the universe? The Departments of Astronomy and Astrophysics and Geophysical Sciences consider the likelihood of life's existence beyond Earth and our ability to find it.

how 'green' these aliens are, they will inevitably pollute." The question is whether that pollution will be detectable and distinguishable as a biosignature rather than from an abiotic process, like volcanic activity.

The key will be finding an ideal biosignature gas to look for. Water, methane, and carbon dioxide all arise from geophysical processes. Astronomers must find a molecule that doesn't exist naturally in a planet's atmosphere, is not created by planetary processes, is not produced or destroyed quickly by interaction with light, and has a strong enough spectral signature to be detected from a great distance. If an alien species were looking for an ideal biosignature from Earth, O_2 or ammonia would fit the bill.

NO MATTER HOW "GREEN" THESE ALIENS ARE, THEY WILL INEVITABLY POLLUTE THEIR ENVIRONMENT.

LAURA KREIDBERG, SM'13, PHD'16, NSF GRADUATE RESEARCH FELLOW IN ASTRONOMY AND ASTROPHYSICS (NOW AT HARVARD)

Kreidberg addressed technology: "The million dollar question is, will we actually be able to detect these biosignatures by 2042? Actually perhaps more likely the 10 billion dollar question." She explained the main technique used to analyze atmospheres, called transmission spectroscopy. When a planet passes in front of its star from our perspective, molecules in its atmosphere absorb light, producing an observable spectrum, from which astronomers can infer the planet's atmospheric composition and temperature.

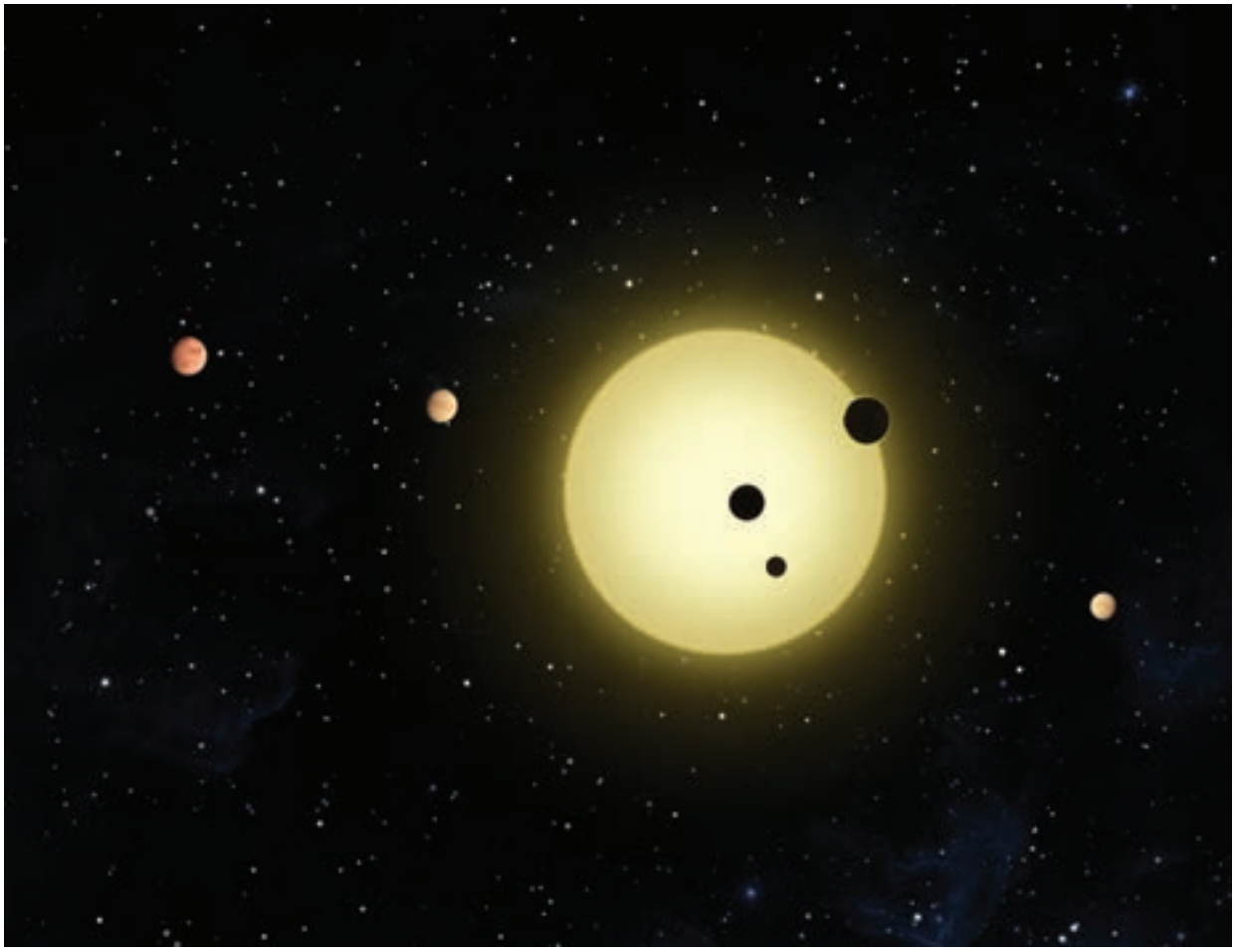
To detect biosignatures reliably, they'll need more precise measurements, which the James Webb Space Telescope will collect when it launches in 2018. To achieve direct imaging, astronomers need an even more powerful telescope, such as the 12-meter ultraviolet-optical-infrared observatory proposed by the Associated Universities for Research in Astronomy for development in the 2030s. "Then," said Kreidberg, "we'd be in business."

WE ARE ALONE—OR MIGHT AS WELL BE (CON)

EDWIN KITE, ASSISTANT PROFESSOR OF GEOPHYSICAL SCIENCES

To kick off the arguments that we won't find evidence of life, Kite considered the likelihood of life arising from chemical reactions. "We all hope that life is widespread in the universe; anything else would seem like a waste of space," said Kite. "But we should vote based on facts, not hopes, and the facts are that the origin of life appears to be very difficult." Scientists have known since Pasteur's 1859 experiment that spontaneous generation doesn't exist, and all efforts to coax life from its necessary components in a laboratory have failed. Nearby planets and moons have had all the prerequisites for life in just the right conditions for millions of years, and still no life has arisen.

The rise of life isn't impossible, Kite noted, because it obviously has happened at least once in the universe. So he laid out two scenarios: life is easy and common (which seems unlikely considering our failed experiments at creating life and nearby observation) or life is rare, spread out across swaths of lifeless space too vast to overcome any time soon. He insisted that the audience shouldn't feel any cognitive dissonance in voting "no." They can still support exoplanet research while acknowledging that it's unlikely to find alien life by 2042.



NASA's Kepler Mission has thus far discovered more than 3,000 exoplanets, including six orbiting a small cool star called Kepler-11 (top). During the debate (lower right), Dorian Abbot argued that Kepler's numerous confirmed terrestrial planets offer plenty of environments for life to arise. Edwin Kite countered that when microbiologist Louis Pasteur, shown in Albert Edelfelt's 1885 painting (lower left), disproved spontaneous generation, we learned that life does not arise easily.

ARTIST RENDITION COURTESY NASA/TIM PYLE (TOP); PHOTOGRAPHY BY NANCY WONG (RIGHT); IMAGE COURTESY MUSÉE D'ORSAY, PUBLIC DOMAIN (LEFT)

DANIEL FABRYCKY, ASSISTANT PROFESSOR OF ASTRONOMY AND ASTROPHYSICS

Fabrycky's discussion on whether we'll find simple life centered on whether we might find—or be found by—intelligent life. He conjured Fermi's paradox, often mentioned when discussing alien life. Put simply (and perhaps incorrectly): If aliens are out there, where is everybody? Why are we not in contact now, and if they've visited, why are there no artifacts? "In this audience, I don't think I have to defend that proposition—that there are no such artifacts," said Fabrycky. "Not even a measly obelisk on the moon."

Fabrycky pointed out that our solar system has traveled around the galaxy 50 times since it formed, with only the help of gravity. "If you have rockets and intelligence propelling you, you can get around the galaxy much quicker." If aliens were coming, they should be here by now.

For contact to be made, a series of states must be achieved, according to the Drake equation.

1. There must be terrestrial planets older than Earth.
2. Nonliving molecules must form into living, replicating organisms.
3. Life must evolve from simple organisms to complex, intelligent life.
4. Intelligent life must develop technology advanced enough to populate the galaxy.

Robin Hanson, AM'84, SM'84, a physics-trained economist, proposed the "great filter" argument, Fabrycky noted, that somewhere in that series of states exists an insurmountable obstacle, which is why our galaxy isn't swarming with alien life. But at which stage is the filter?

Kepler has found numerous suitable exoplanets as well as star systems far older than our own, so no problem there. Once step two is passed, where raw materials become life, there would be biosignatures, and the debate's proposition could be true. Fabrycky thinks this is the filter. Humans are in step three, having evolved into intelligent beings via a process well understood and documented (and thus not likely the filter).

IF YOU HAVE ROCKETS AND INTELLIGENCE PROPELLING YOU, YOU CAN GET AROUND THE GALAXY MUCH QUICKER.

So, in Fabrycky's argument, the filter is either the origin of life or our capacity for interstellar travel. If you believe that we will find evidence of simple life, then you believe that the filter is ahead of us, that neither we nor any other intelligent species will ever leave our solar system. "By voting 'yes' on your post-debate slip, you are dooming humanity. To vote 'yes' to the future of humanity, you must vote 'no' to biosignatures."

JACOB BEAN, ASSISTANT PROFESSOR OF ASTRONOMY AND ASTROPHYSICS

Closing out the con side, Bean reiterated that any search for life would face technological, scientific, and procedural challenges. But the greatest challenges will be ideological and economic—getting exoplanet researchers to agree on the right strategy and then convincing the broader astronomical community, the public, and the government to buy in. "Science aside, technology aside, my pessimism about human nature suggests that we are not going to pull that off by 2042. It's going to be the money that limits us, not the ability to do the observations or to interpret the measurements."

A BRIEF REBUTTAL

Abbot rebutted Kite's rare life claim, suggesting that life could have arisen multiple times on Earth but been outcompeted by a more dominant form.

He also suggested that Fabrycky overestimated the ease of evolution, noting it took three billion years to get to our current state. "Intelligent life doesn't seem Darwinianly favorable. Cows are doing fine not building radio telescopes."

Kreidberg pushed back on Bean—who happens to be her adviser and who convinced her to pursue exoplanet research—saying that he discounts tremendous public fascination with the search for alien life and human ingenuity to develop cheaper methods for exploration.

Kite rebutted the use of certain gases as biomarkers: "Oxygen sucks." When light breaks down water, hydrogen escapes into space easily, leaving oxygen to build up, increasing the chance of a false positive.

Bean admitted that he "actually should be sitting on the other side." His argument was more of a challenge to get people on board and "make this happen."

THE VERDICT

Before the debate, the audience voted 38 for "yes," we will find life, and 33 for "no," we're on our own. Afterward, 38 for "yes," 40 for "no." Astronomy and astrophysics chair **Angela Olinto** joked, "I think we are following the Chicago tradition of voting often," before declaring a tie. ◆

profile

Change of state

Former Argonne director; UChicago VP of research, trustee, and now representative on the Giant Magellan Telescope board; physicist; and retiring art school president Walter E. Massey enters a new phase.

BY MAUREEN SEARCY

Whether working with heads of state (with president Jimmy Carter in 1980) or art school undergrads (speaking at an SAIC orientation), Walter E. Massey has been a leader, an educator, and a mentor across his diverse career.

Often the question, "So what's next for you?" comes at the end of a profile about a notable person leaving a prominent position. But for **Walter E. Massey**, who stepped down as the president of the School of the Art Institute of Chicago in June, the end of each career stage has been the beginning of something equally if not more remarkable.

Sitting in his eighth-floor office overlooking Millennium Park, three days before the end of his six-year term, Massey explains that he will remain as SAIC's chancellor, participating in fundraising and outreach efforts. The part-time position grants him more time to participate as UChicago's representative on the board of the Giant Magellan Telescope Organization, a consortium of about a dozen US and international institutions that oversees the construction and management of a super giant telescope in Chile's Las Campanas Observatory. The segmented-mirror telescope, scheduled to be operational by 2022, promises to "if not answer, then shed light—no pun intended—on our biggest questions about the universe," says Massey.

An emeritus trustee of the University since 2008, Massey joined the GMTO board in February, filling the spot vacated by Physical Sciences Division dean Rocky Kolb. Massey, a physicist with extensive advisory board experience—Bank of America, the Mellon Foundation, and the Marine Biological Laboratory, to name a few—has been affiliated with UChicago longer than with any other institution.

His wife, Shirley Anne Massey, has been involved with UChicago even longer. She grew up in Hyde Park, and her father was the first black janitor at the Laboratory Schools, says Massey. One son, **Eric Massey**, LAB'89, AB'94, who works in environmental research, has a daughter, Eva, enrolled at Lab. "Our family," Walter Massey says, "is part of the UChicago community."

Born in Hattiesburg, Mississippi, in 1938, Massey loved math and in the 10th grade was awarded a scholarship to Morehouse College in Atlanta. His parents believed education was essential, and Massey went into theoretical physics in part to rise above the discrimination of his childhood. As he told *Physics Today* in October 1990, "When you're black and you grow up segregated, so much depends on how people think of you. In theoretical physics, no one reading your papers would know if you were black or white. There's no such thing as black physics."

After earning his PhD in physics from Washington University in St. Louis, he joined Argonne National Laboratory as a postdoc. "That was 1966," says Massey. "Fifty years—my god!"

IN THEORETICAL PHYSICS, NO ONE READING YOUR PAPERS WOULD KNOW IF YOU WERE BLACK OR WHITE.

Starting in graduate school, Massey studied theoretical condensed matter physics—the study of solid-, liquid-, and plasma-state matter and the physical properties of each—focusing on the application of quantum theory to helium.

At Washington University and later as an assistant professor at the University of Illinois at Urbana-Champaign (UIUC) and a professor at Brown University, he studied superfluidity of liquid helium, which exhibits unusual properties such as frictionless flow and the apparent ability to defy gravity at extremely low temperatures.

While continuing the solitary endeavor of his research, Massey also turned his attention to broader interests, motivated by the 1960s civil rights movement to engage with society. He became a founding trustee of the Illinois Mathematics and Science Academy, a public high school for students interested in a science or math career. While at Brown he developed a program to educate future teachers for inner city schools and also served as dean of the college.

In 1979 Massey returned to Argonne—this time as director and UChicago professor of physics—now in a position to drive scientific discovery on a broader scale. Under Massey's leadership Argonne developed a new technology for nuclear reactors, the Liquid Metal Reactor, which, he says, "may in fact be one of the technologies that comes back if nuclear power has a resurgence." (He hopes it does.) The lab also developed what ultimately became the Advanced Photon Source, which provides ultra-bright, high-energy x-ray beams for research in almost all scientific disciplines.

In 1983 Massey was appointed UChicago's vice president of research, cofounding and chairing the Argonne-Chicago Development Corporation—one of the first organizations in the country designed to commercialize academic research. The predecessor to such entities as UChicagoTech and the Polsky Center for Entrepreneurship and Innovation, ARCH "was unique and interesting," Massey says, "in that it involved Argonne scientists and engineers, UChicago faculty from both science and business, graduate students, and trustees."

OPPOSITE PAGE: PHOTO COURTESY ARGONNE NATIONAL LABORATORY (TOP LEFT); ALL OTHER PHOTOS COURTESY THE SCHOOL OF THE ART INSTITUTE OF CHICAGO

"Back then the climate was not conducive to commercialization," he says, noting that ARCH was formed not long after the 1980 passage of the Bayh-Dole Act, which granted universities and businesses exclusive control over government-funded inventions. "Now it's taken for granted. Potential for commercialization is just part of young faculty's career paths."

Application not only connects the University to the world outside, he says, but also demonstrates that governmental investment in science and technology benefits the country's economy. Well versed in how the government thinks about funding science, in 1991 Massey, a Democrat, was appointed by George H. W. Bush to be director of the National Science Foundation. He also served on the President's Council of Advisors on Science and Technology for both George H. W. and George W. Bush.

While leading the NSF, Massey helped persuade Congress to fund what, in 1992, was the NSF's single largest investment to date: the Laser Interferometer Gravitational-Wave Observatory. Designed to detect the gravitational waves predicted by Albert Einstein as part of his general theory of relativity, LIGO was a tough sell. Much of the astronomy community was opposed to it, arguing such waves couldn't be detected by available—or even proposed—technology. Massey and LIGO's leaders argued that both the science and technology that came from LIGO would benefit research beyond the search for gravitational waves.

It took 25 years, but LIGO finally detected the waves in September 2015 and again in December. Though he had been certain the project was a solid investment, Massey was still "dumbfounded" when he heard the news: "It's one of those things—you wonder if it'll ever happen."

A lifelong advocate for science, Massey has also advocated for scientists themselves, in particular pushing for greater gender and racial equality in science, technology, engineering, and mathematical (STEM) fields. He believes one path to parity is mentorship, having benefited so greatly himself from mentors.

The only physics major in his class at Morehouse, he was mentored by Sabinus H. Christensen, a white professor at the historically black college who, says Massey, inspired a good proportion of black physicists to earn their doctorates—still a tiny percentage then. In a June 1992 article about Massey, *Scientific American* cites NSF data showing only 340 black PhDs in science and engineering out of 14,776 total in 1990. In that same article, Massey half jokingly says he used to give speeches urging universities to double their number of black PhDs, but because many had none, he changed his recommendation to "double plus one."

At UChicago's Hack Arts Lab, SAIC MFA candidate Keeley Haftner uses a filament extruder.

A cofounder of the National Society of Black Physicists, Massey has long worked to encourage women and underrepresented minorities in STEM, founding outreach groups at UIUC and Brown, and later as provost and vice president of academic affairs at the University of California and then as president of his alma mater, Morehouse.

Over his career he's seen "tremendous" progress, Massey says, "but still not enough." While women have made great strides in representation, particularly in the biological sciences, "there's still a great need to push these issues and provide funding, especially for African Americans and Hispanics." While the number of PhDs in STEM has increased a staggering 5,333 percent since 1990, from roughly 15,000 to 800,000, the percentage of those who are black increased only a fraction—from 2.3 to 3 percent, according to the NSF's 2013 survey. (By comparison, the Census Bureau estimates the US population to be 13.3 percent black or African American.)

So how do we improve those numbers? "It always comes back to high school," says Massey. "We need to build the pool and then provide financial support for bright young students in college interested in pursuing these fields. We also need to make a better case that STEM can be as economically attractive as other careers." The transition from undergraduate to graduate study is another hurdle. "That's where financial aid and scholarship funds become crucial." And Massey believes in providing mentors to students from underrepresented groups who may face a dearth of role models—to show what they too can achieve.

In 2010 Massey was appointed president of the School of the Art Institute of Chicago, initially on an interim basis and not without some controversy in the local art scene, where skeptics raised an eyebrow at his corporate background. Yet he proved a successful choice, overseeing construction of the Leroy Neiman Center, the first ever student center at the school; launching programs to better engage the school with the city; and starting a $50 million

PHOTO COURTESY ARTS, SCIENCE, AND CULTURE INITIATIVE

Massey, who believes in the interconnectedness of art and science and supports collaborative programs between UChicago and SAIC, joins students in SAIC's Science Lab.

PHOTO COURTESY THE SCHOOL OF THE ART INSTITUTE OF CHICAGO

fundraising campaign for student scholarships and faculty chairs. During his tenure the school's programs consistently ranked in the top four nationally.

Massey enjoyed the shift to the art and design world. Surrounded by artists and designers, he and his wife say they felt more present, more aware of their surroundings. "It adds so much richness to your life."

His experience as a scientist is not so incongruous with his post as president of SAIC, he explained while accepting the Illinois Humanities Council's 2016 Public Humanities Award, which honored his efforts in developing creativity in young people, increasing access to education, and strengthening the ties between humanities and the sciences.

In that speech, he also quoted Carlo Rovelli, an Italian theoretical physicist whose 2015 book *Seven Brief Lessons on Physics* describes the work of science: "Science begins with a vision. Scientific thought is fed by the capacity to 'see' things differently than they have previously been seen."

Back in his SAIC office, he conjures this concept of vision again while explaining the similarities between the artistic and scientific communities. Curiosity and the ability to look beyond and challenge what's accepted—scientists and artists both engage in this form of re-vision to solve seemingly unsolvable problems or to express an idea in a novel way. "Both communities in the very best circumstances have a tolerance for ambiguity. They may not have the right solution, but they see their way forward."

This isn't just lip service—a pat response prepared for the numerous journalists who ask about his background in science and how it relates to art. He backs it up by supporting programs at SAIC, such as Conversations on Art and Science, visiting scientists, and collaborations among art and science students. For the past two years, UChicago's Art, Science, and Culture Initiative Graduate Collaboration Grants have paired UChicago science students with SAIC art students for interdisciplinary research.

One collaboration in the 2015–16 cycle paired Keeley Haftner, an Art Institute MFA candidate in fiber and material studies, with UChicago biophysics PhD candidate Will McFadden. Their project, Filament Findings, explored 3-D printing and cytoskeletal structures, focusing on organic and inorganic materials.

"It's gratifying that we've come to the point of doing substantive collaborative work," says Massey, rather than artists simply illustrating scientific results. "Each side seems to be learning from the other, gaining skills from each other to help solve their own problems."

As Massey vacates the presidency, new SAIC president Elissa Tenny will continue those initiatives, and he will assist her and the board in any way "she sees fit," he says with a smile. Which brings us back the question: what *is* next for Walter Massey?

He laughs at the notion of "getting back into science." He won't be doing science—"it's way beyond that" for him. But he's active in the science community and looks forward to spending more time learning about UChicago's ongoing research. And his responsibilities to the Giant Magellan Telescope Organization board take time.

He's excited by what the telescope might find: "At the last meeting of the board, we discussed the possibility of detecting oxygen on exoplanets." That could be an indicator of life. The telescope could also aid discoveries regarding dark matter, dark energy, and black holes. "But one of the most exciting possibilities—and likelihoods—is that none of the above will be the most interesting thing," says Massey. "If the only thing you learn confirms something you predicted, that would be great, but that wouldn't be nearly as exciting as unearthing—or unplanetarizing—things you never suspected."

In his last annual report before stepping down as SAIC president, Massey wrote about such scientific discoveries and his own evolving career: "As a physicist, leading a school of art and design has certainly been a learning experience, but as Nobel laureate Richard Feynman once wrote: 'In order to make progress, one must leave the door to the unknown ajar.'" ◆

history

A pattern of progress

How an automated loom inspired the earliest computer inventors.

BY MAUREEN SEARCY

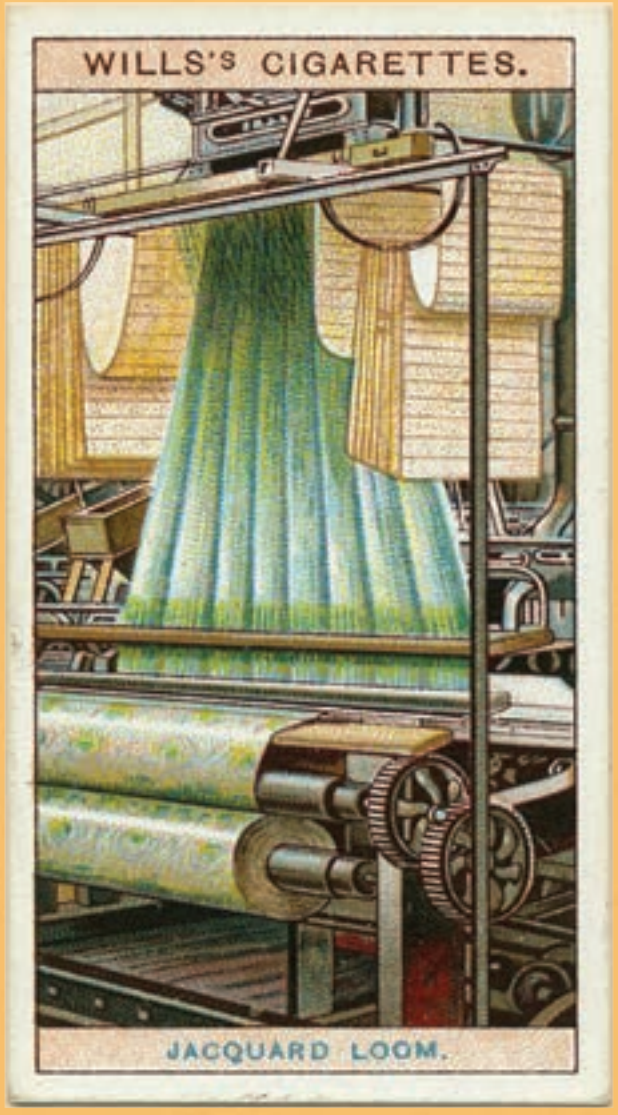
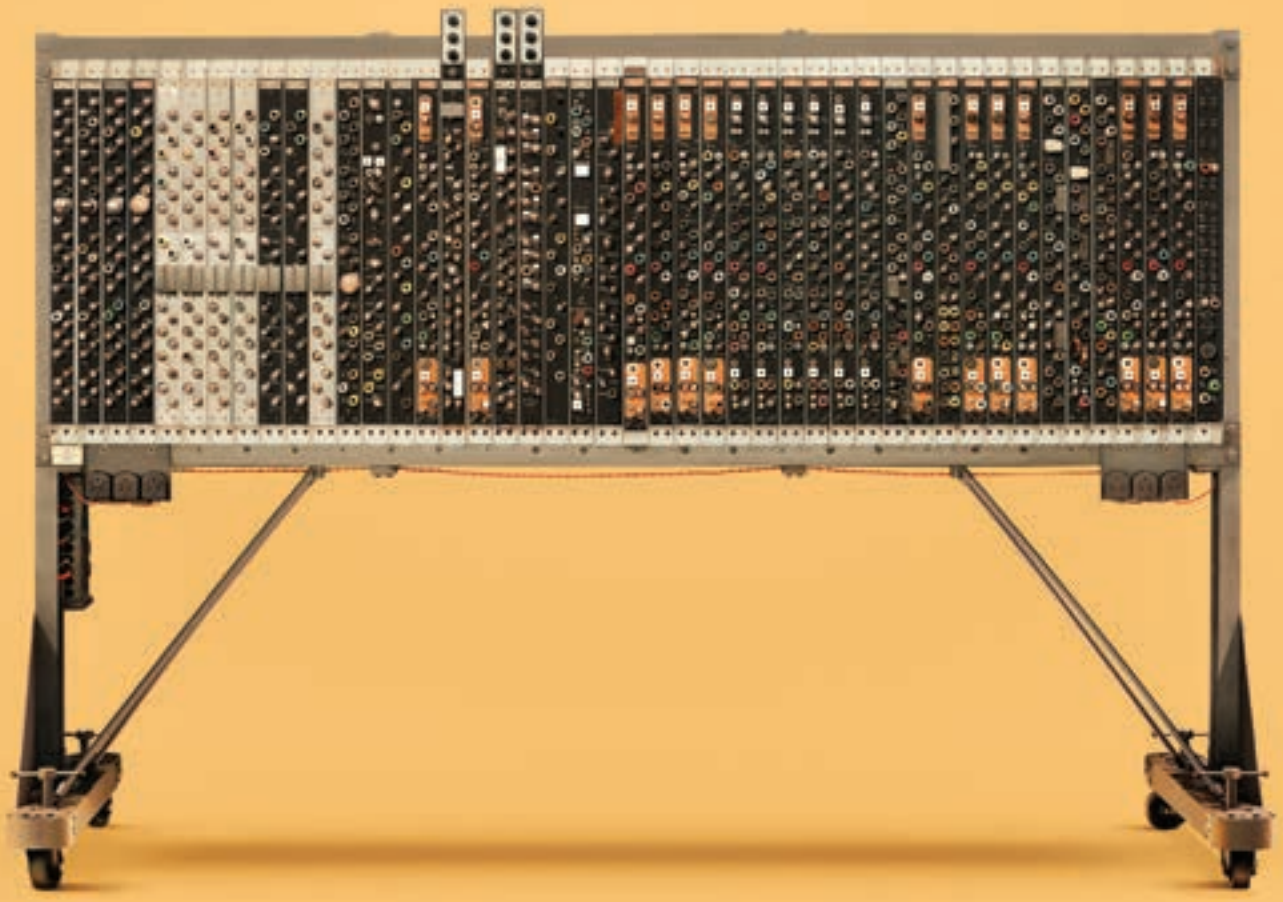


IMAGE COURTESY THE NEW YORK PUBLIC LIBRARY

In 1801 French weaver and inventor Joseph Marie Jacquard debuted a "programmable" automated loom* at an industrial exhibition in Paris. What became known as the Jacquard loom was actually an attachment controlled by a chain of punch cards, in which one complete card dictated one row of a pattern. A hook and its corresponding thread were raised or lowered depending on the code, creating intricate patterns that could be quickly replicated by a single weaver. Traditional looms required a weaver and an assistant.

The Jacquard loom was one of many automation advancements that marked the Industrial Revolution, transforming the European textile industry. It also set the stage for the invention of computer technology, as noted by School of the Art Institute MFA student Dylan Fish and UChicago mathematics PhD candidate **Daniel Johnstone**, SM'13, during their May collaboration grant presentation, which explored computational concepts through cloth production.

In the early 19th century, English mathematician Charles Babbage designed a calculating machine—the Difference



The Jacquard loom and its punch-card design (left) laid the foundation for computer technology, such as Alan Turing's Pilot ACE (above), completed at National Physical Laboratory in 1951 and in operation for about five years.

PHOTOGRAPHY BY DOCUBYTE

Engine. But it was his follow-up design, the 1834 Analytical Engine—based on Jacquard's punch cards—that introduced computer programming.

Never built in his lifetime, his engines laid the foundation for general-purpose computers, largely thanks to the English poet Lord Byron's daughter, Ada Lovelace. She had mathematical training and helped popularize the idea that Babbage's Analytical Engine could perform step-by-step calculations (programs) and move beyond numbers to manipulate symbols using rules.

Also inspired by Jacquard's punch cards was US Census Bureau staff member Herman Hollerith, who was looking for a more efficient way to assess the country's population. In 1884 he filed a patent for a device that rapidly read information encoded in holes punched on paper, which reduced the census process from eight years to one. Hollerith founded the Tabulating Machine Company, which eventually became IBM.

Fast forward to 1951, when the UK's National Physical Laboratory completed the Pilot ACE (Automatic Computing Engine), a general-purpose computer based on English mathematician Alan Turing's design. The Pilot ACE used Hollerith 80-column punch-card input and output equipment, with the input device running at 200 cards per minute and the output device at 100 cards per minute.

Today's computers no longer use punch cards, having evolved in leaps and bounds. "As the exponential curve on one technology's advancement dies out," says **Michael Franklin**, the Liew Family Chair of Computer Science, "another technology takes over."

With the exploration of quantum computing, tomorrow's computer technology likely won't even be constrained by the laws of classical physics. And it all started with an ambitious weaver.

** Jacquard's was not the first automated loom—just the first to be successfully adopted by the textile industry. The first loom using a punched-paper technique was designed around 1750 by French engineer Jacques de Vaucanson, who is also credited with inventing the world's first robots.*

IN EVIDENCE

Mirror image

Jonathan Simon blurs the line between matter and light.

Light and matter are distinct entities in classical physics. In the context of quantum mechanics, they are alike in that they both can act as a particle or a wave. Neubauer Family Assistant Professor of Physics **Jonathan Simon** and his lab have taken advantage of this similarity to explore quantum mechanics in matter by harnessing light.

Simon's recent research deals with the quantum Hall effect, a variation of the Hall effect, named after its discoverer, physicist Edwin Hall. The Hall effect is a phenomenon in which electrons moving straight through a conductive material will deflect into a curved path when subjected to a magnetic field, creating a voltage across the material and affecting the material's resistance. The quantum Hall effect is observed when a material in a powerful magnetic field and at very low temperatures shows a step-wise, rather than linear, change in resistance.

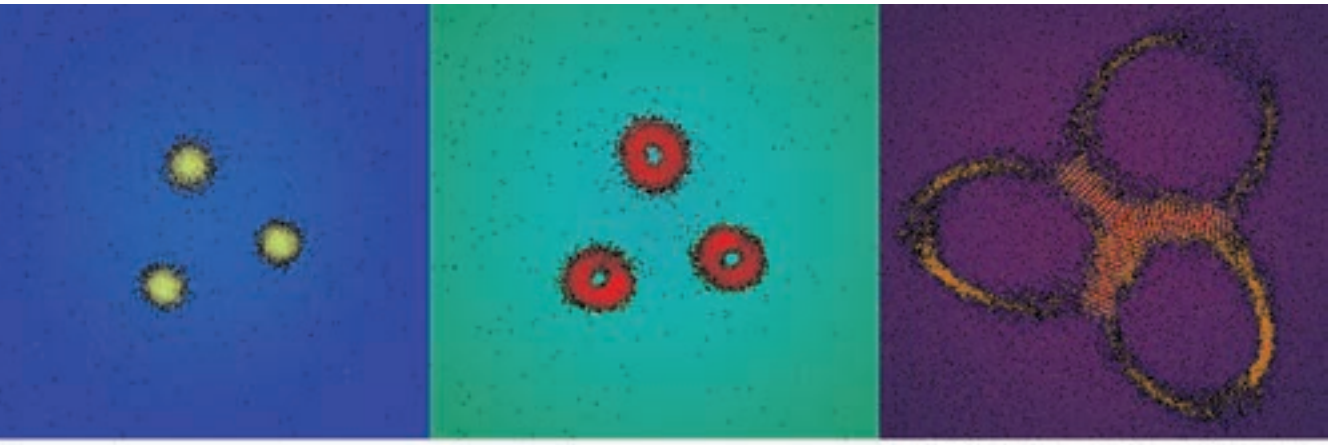
Two characteristics that solid-state quantum Hall materials exhibit are low electrical resistance and quantum entanglement, in which the state of one electron influences the state of the rest. These properties are promising for such applications as quantum computation.

Simon's lab created a photonic (or light-based) quantum Hall material by shining infrared lasers at specially configured mirrors, creating the false-color images seen below. When the photons bounce between the mirrors—arranged in such a way to make the photons twist—their side-to-side motion parallels the electron behavior in solid-state quantum Hall materials.

Using advanced optical systems, the physicists also made the photons act like they were on the surface of a cone, a feat not yet achievable with electrons. This experiment led to the first observation of the quantum Hall effect in curved space. In conjunction with ongoing work in the Simon lab to induce the photons to collide with one another, it opens the door to creating synthetic materials from light.

—Maureen Searcy

These false-color images show light-based quantum Hall material, created by shining infrared laser light at specially configured mirrors—an important step for the development of quantum technologies.



IMAGES COURTESY NATHAN SCHINE, SM'14; ALBERT RYOU, SM'13; ANDREY GROMOV; ARIEL SOMMER; AND JONATHAN SIMON

To learn more about the Physical Sciences Division's academic and research priorities—and how you can help—contact director of development Brian Yocum at 773.702.3751; byocum@uchicago.edu; or William Eckhardt Research Center, 5640 South Ellis Avenue, Suite 319, Chicago, IL 60637.

Email *Inquiry* at psd-inquiry@uchicago.edu.

Editor: Maureen Searcy | Editorial Director: Amy Braverman Puma | Designer: Michael Vendiola | Art Director: Guido Mendez

Page 51: The IBM 729 Magnetic Tape Unit; photography by Docubyte

bear review

UChicago botany professor George Damon Fuller, PhD 1913, feeds a bear in Yellowstone National Park in 1923. In honor of the National Park Service's centennial this year, John Crerar Library is hosting an exhibit on University connections to US parks, now through December 31.

UCHICAGO PHOTOGRAPHIC ARCHIVE, AEP-WYN001, UNIVERSITY OF CHICAGO LIBRARY

NOTES

GIDDY UP

Thanks in part to the efforts of S. Janelle Montgomery, AB'86, MBA'89, cattle rancher Frances Rosenthal Kallison, PhB'29, has been inducted into the Cowgirl Hall of Fame. Kallison was known for the award-winning cattle on her family's Diamond K Ranch, for hosting USO barbecues, and for helping found a women's precision horseback riding team that had cameos in John Wayne movies. A scholar of Jewish history, Kallison also cofounded the Texas Jewish Historical Society.

LEADING THE LIBRARY

Carla Hayden, AM'77, PhD'87, has been confirmed as the 14th Librarian of Congress. Hayden, the former CEO of the Enoch Pratt Free Library in Baltimore, is the first woman and the first African American to hold the post. A past president of the American Library Association, she is widely credited with modernizing Baltimore's 22-branch library system, and she is an outspoken advocate on freedom-to-read issues. Hayden will serve a 10-year term as the nation's top librarian, managing a collection of more than 160 million items and overseeing the US Copyright Office.

WORLD-CLASS ECONOMIST

The World Bank appointed **Paul Romer**, SB'77, PhD'83, as its chief economist. Romer, an economics professor at New York University, is known for his theory of "endogenous growth," which stresses the importance of investing in innovation, knowledge, and human capital. Romer replaces Kaushik Basu, who retired July 31.

DRAWING CONNECTIONS

The American Institute of Physics has awarded **James Kakalios**, SM'82, PhD'85, the 2016 Andrew Gemant Award, an annual prize recognizing contributions to the cultural, artistic, or humanistic side of physics. Kakalios, a University of Minnesota physicist, is the author of two books that use superheroes and comic books to explain complex physics concepts, and he was a science consultant on the movies *Watchmen* (2009) and *The Amazing Spider-Man* (2012).

FILM SUCCESS

Crooked & Narrow (2016), directed, coproduced, and cowritten by **Neal Dhand**, AB'05, was included in this summer's Brooklyn Film Festival, where it won the award for best editing. Dhand's 2011 directorial debut, *Second-Story Man*, was shown at festivals in China, Spain, and the United States, and Dhand currently has two science fiction films in the works. He teaches screenwriting, directing, and film history at Chestnut Hill College.

TOP CHEMIST

Peng Chen, SM'03, PhD'07, received China's Tan Kah Kee Young Scientist Award, given every other year to one under-40 researcher in each of six fields. Head of the Center for Life Sciences of Peking University-Tsinghua University, Chen focuses on protein chemistry and engineering, work that could help develop treatments for cancer and infectious diseases. In 2007 he received UChicago's Elizabeth R. Norton Prize for Excellence in Research in Chemistry.

WOMAN OF MYSTERY

Author **Sara Paretsky,** AM'69, MBA'77, PhD'77, has won the Pinckley Prize for Distinguished Body of Work, named for longtime *New Orleans Times-Picayune* crime fiction writer Diana Pinckley. Paretsky is the author of 24 books, 19 of which follow the adventures of private eye V. I. Warshawski. A former president of Mystery Writers of America, Paretsky is the founder of Sisters in Crime, an organization focused on supporting female mystery authors.

CHICAGO'S HUMANITARIAN

The US Fund for UNICEF named **Gary Slutkin**, MD'75, a Chicago Humanitarian of the Year. Slutkin, a professor of epidemiology at the University of Illinois at Chicago School of Public Health, is the founder and CEO of Cure Violence. The nonprofit focuses on using disease-control and behavior-modification techniques to reduce violent crime. Violence "behaves like a contagious disease," says Slutkin. "We need to galvanize the public health sector to change the course of the violence epidemic."

SPEAKING FOR THE HOLY SEE

Pope Francis has appointed **Kim Daniels**, JD'94, to the papal Secretariat for Communications, which directs all of the Vatican's communications outlets. Daniels, an attorney and consultant specializing in religious freedom issues, is one of three laypersons and the only American on the 16-person committee. She was previously the spokeswoman for the president of the US Conference of Catholic Bishops and the director of Catholic Voices USA. —*Helen Gregg, AB'09*

COURTESY KALLISON FAMILY (TOP); WONDERWORLD COMICS #3, WILL EISNER AND LOU FINE/PUBLIC DOMAIN (LEFT)

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.*

OUR REVOLUTION: A FUTURE TO BELIEVE IN
By Bernie Sanders, AB'64; Thomas Dunne Books, 2016
Following his presidential run, Vermont senator **Bernie Sanders** gives an inside look at the campaign that attracted millions of voters across the country. The book (priced at 27 bucks) also lays out his ideas for achieving economic, social, environmental, and racial justice in 2016 and beyond.

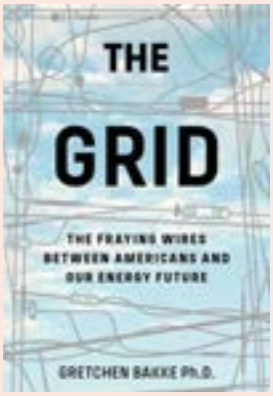
GOOD AS GONE
By Amy Gentry, AM'05, PhD'11; Houghton Mifflin Harcourt, 2016
When 13-year-old Julie Whitaker is kidnapped from her bedroom, her younger sister is the only witness. Eight years later Julie suddenly reappears on the family's doorstep. But the girls' mother soon starts to question Julie's story of where she's been—and starts a high-stakes investigation into the young woman she wants desperately to believe is her daughter.

RICHARD POSNER
By William Domnarski, AM'78; Oxford University Press, 2016
Judge **Richard Posner**, a senior lecturer at the University of Chicago Law School, has served for 35 years on the US Court of Appeals for the Seventh Circuit. His opinions, which he writes himself, have been cited more often than those of any other American judge. In the first full-length biography of Posner, lawyer and legal writer **William Domnarski** draws on interviews with the judge and more than 200 of his colleagues and acquaintances, as well as on Posner's own writing, to show how the often-controversial jurist has emerged as one of the country's most influential legal thinkers.

CHANGING NORMAL: HOW I HELPED MY HUSBAND BEAT CANCER
By Marilu Henner, EX'74, and Michael Brown, AB'74; Gallery Books, 2016
After being out of touch with him for more than 20 years, actress **Marilu Henner** reconnected with former classmate **Michael Brown** in 2003, and a relationship quickly blossomed. Several months later Michael was diagnosed with bladder cancer and then with lung cancer. Detailing how Marilu incorporated Eastern medicine and healthy habits into Michael's treatment regimen, this candid account chronicles their successful journey to Michael's remission and how their struggles ultimately strengthened the relationship.

REPLICA
By Lauren Oliver (née Laura Schechter), AB'04; HarperCollins, 2016
When read from one cover, *Replica*, the first book of a new duology from young adult author **Lauren Oliver**, tells the story of Gemma, a sickly girl who discovers her father has a connection to a mysterious research facility. When read starting from the other cover, it's the story of Lyra, a human study subject who breaks out of the same facility. The two girls, both searching for answers, meet in Florida and their lives and stories become irreversibly intertwined.

GARDEN OF BROKEN STATUES: EXPLORING CENSORSHIP IN RUSSIA
By Marianna Tax Choldin, LAB'59, AB'62, AM'67, PhD'79; Academic Studies Press, 2016
Russian scholar and librarian **Marianna Tax Choldin** has traveled to Russia more than 50 times since 1960 and has spoken with hundreds of the country's citizens about their experiences with censorship. In her memoir she describes the tension between her own commitment to freedom of speech and her growing understanding of Russian censorship. Choldin also reflects on the friends she's made during her travels and what it's like to return to the country that her Jewish family left a century ago.



THE GRID: THE FRAYING WIRES BETWEEN AMERICANS AND OUR ENERGY FUTURE
By Gretchen Bakke, PhD'07; Bloomsbury, 2016
America's electrical grid is not only aging and in need of repair but also not designed for new power sources like wind and solar energy that require flexible capacity and large-scale storage. Cultural anthropologist **Gretchen Bakke** explores the history of the grid and profiles people who are working to revolutionize our electrical infrastructure.

CITY OF GODS: RELIGIOUS FREEDOM, IMMIGRATION, AND PLURALISM IN FLUSHING, QUEENS
By R. Scott Hanson, PhD'02; Oxford University Press, 2016
Since the 17th century the Queens, NY, neighborhood of Flushing has been one of the most religiously diverse areas in the country. **R. Scott Hanson**, a lecturer at the University of Pennsylvania and an affiliate of Harvard's Pluralism Project, explores the neighborhood's commitment to religious freedom and how immigration has made this densely populated area a microcosm of world religions—though not without some conflict. With a foreword by the Divinity School's **Martin E. Marty**, PhD'56, *City of Gods* uses Flushing to analyze both the possibilities and limits of religious pluralism in America.—*Helen Gregg, AB'09*

With Gratitude for Your Support

Phoenix Society members lead the way in supporting the University's students, faculty, resources, and facilities through estate commitments and life-income arrangements. Such gifts provide important ways to strengthen and sustain the University's future. The names below represent members welcomed into the society from July 1, 2015, through June 30, 2016. Lifetime members can find their name in the online Leaders in Philanthropy Honor Rolls at *give.uchicago.edu/leadersinphilanthropy*. All names are listed per member request.

We invite you to join the Phoenix Society by providing for the University in your financial and estate plans. Please visit *phoenixsociety.uchicago.edu*, email phoenixsociety@uchicago.edu, or call 866.241.9802 for more information.

Thank you.

Anonymous, AB'67, SM'69

Simon Ahn, AB'86

Andrew Ainslie, PhD'98

Grace Armstrong and Kenneth Armstrong, JD'72

Christopher Baucom, MBA'95

Dr. Bernardo E. Beker and Martha K. Bennett-Beker

Gregory Bellow, AB'66, AM'68

Thomas Bigongiari, LAB'82

Sue Blaine, MBA'83, and Jeffrey N. Blaine, AM'79

Irving V. Boberski II, MBA'63, PhD'66

Phyllis Booth, AM'66

Sue Bowers, AM'69

Norma Bramsen and John Bramsen, PhD'70

Glen Brodowsky, AB'86

Laurenz Byk, EX'74

Kenneth Coates, MBA'64

Brenda Cole and Thomas Cole, PhD'66

Barbara Randall Coltman, AM'51

Joan Cook and Stephen Canders, JD'72

Janet Cooper and Raymond Marcinowski, MBA'78

Mildred Dina

Marilyn Drury-Katillo, AB'61

Mona ElNaggar, AB'89, and Yousuf Khan

Elizabeth Fleisher and Belton Fleisher

Darryl Fohrman, JD'64

Cheryl Francis, MBA'78, and Zed Francis, MBA'78

Richard Gehring, AM'71

Drs. Godfrey and Lorraine Getz

Jennie Gin and Edward Gin

Paula Gleacher and Eric Gleacher, MBA'67

Jennifer Glueck and Ron Bezoza, MBA'99

Carl Gottlieb, PhD'69

Joyce Zeger Greenberg, AB'52

Celeste Greene and Richard Greene, AB'50

Virginia Grimes, AB'50, AM'53

Amy Han and Dennis Han, AB'85, MD'89

Patricia Hart, MBA'76, and Hollis Hart, MBA'77

Barbara Hawley, AB'72

Eric Hoem, AB'68

Gary Hoover, AB'73

Bonnie Humphrey, AB'80, and John O'Donnell, AB'80

Laurence Hyman, AB'73

Carol Iglauer, AB'66

Mary Jawor, MBA'88, and Michael Jawor, MBA'86

David Kalayjian, MD'67

Peter Iver Kaufman, AM'73, PhD'75

Christopher Krampitzgrover, MBA'05

Joshua Labove, AB'07

John Lane, MBA'71

Peter Layton, AB'82, MBA'87

Christine Lemberg, AM'71, MST'73, and Howard Lemberg, PhD'73

Julius Lewis, AB'50, AM'54

Beverly Livingston, AM'68, PhD'74

Irene Ludwig and Gerald Forney, SM'74

Mary Manaster, AB'60, and Alfred Manaster, LAB'54, SB'60

Frances Margolin, AM'94

Laura Martin, AB'68

Richard Martin, AB'62

Constance Martineau and Robert Martineau, JD'59

Madison McClendon, MDV'12

Barbara McDougal, EX'47, and David McDougal, MD'47

Thomas McLaughlin, JD'60

Julie McNeill and Samuel Blackman, AB'90

Bonnie Aaron Mervis, AM'74

Conrad Miczko

Julianne Migely, AB'91, AM'02

Candice Miller and Kevin Markey, AB'71

Carol Olson, PhD'82, MD'86, and Larry Hancock

Sara Paretsky, AM'69, MBA'77, PhD'77, and Courtenay Wright

Niesje Parker and Eugene Parker

Betsey Pinkert, MAT'69, AM'69, and Dale Pinkert

Tanya and Michael P. Polsky, MBA'87

Louise Rehling, AM'70, SM'74

Ann McDavid Reif, LAB'73, and Thomas S. Reif, AB'80

William Roth, MBA'81

Steven G. Schulman, JD'80

Mary Ann Shaw and John Benfield, MD'55

Diane Sim and Randolph Sim, AB'69

Louise Smith, MLA'10

Meg Smith, LAB'72

Deborah Solomon, AB'72, and Bruce Rosenberg, MBA'71

Elizabeth Sonnenschein and Hugo Sonnenschein

Richard Stein, AB'81

Jack Steinberger, SB'42, PhD'49

Jennifer Strickland, AB'91, MBA'97, and Shawn Yang, MBA'97

David Surd, SB'63

Eugene Thiessen, AB'51, MD'58

George Tiers, SB'46, SM'50, PhD'56

Jean Sitterly Treese, AB'66

Lynn Turner and Allen Turner, JD'61

Donna Weaver and Clifford Weaver, AB'66, JD'69

Katharine Wexler, LAB'63, AB'66

Terry Wilson, EX'84

Vicki Woodward and John Glier, AM'74

Linda Wu and George Wu, MD'71

Barbara Zehnbauer, SM'77, PhD'79, and Timothy Buchman, SB'74, SM'74, PhD'78, MD'80

Victoria Zudak and John Eichman, JD'82

DEATHS

FACULTY AND STAFF

Menachem Brinker, Henry Crown Professor Emeritus of Modern Hebrew Language and Literature, died August 11 in Jerusalem. He was 81. A founder of the Israel Philosophical Association, Brinker joined the philosophy faculty at Tel Aviv University in 1968 and helped found the university's poetics and comparative literature department. In 1983 he moved to Hebrew University, where he taught philosophy and Hebrew literature. He came to the University of Chicago in 1995, establishing the Modern Hebrew Language and Literature program the same year. Brinker also helped expand the University Library's collection in his fields of expertise. Known for his work on the relationship between philosophy, literature, and society, he was the author of numerous books and articles. In 2004 his Hebrew literature scholarship was recognized with the Israel Prize, one of the country's highest honors. He retired in 2005. He is survived by his partner, Janet Aviad, and a daughter.

James W. Cronin, SM'53, PhD'55, University Professor emeritus of physics and astronomy and astrophysics, died August 25 in St. Paul, MN. He was 84. Cronin worked at Brookhaven National Laboratory and taught at Princeton before joining the UChicago faculty in 1971. He is best known as the codiscoverer of the charge-parity violation phenomenon, which describes nature's preference for matter over antimatter and supports the big bang theory. For this work, he shared the 1980 Nobel Prize in Physics. In 1992 Cronin cofounded the $50 million Pierre Auger Project, which uses its Auger Observatory in Argentina to detect powerful cosmic rays. He retired from UChicago with emeritus status in 1997 and received the University of Chicago Alumni Medal in 2013. His first wife, Annette Martin Cronin, EX'56, AM'88, former director of special events at UChicago, died in 2005, and his daughter Cathryn Cranston, LAB'73, died in 2011. He is survived by his wife, Carol McDonald; a daughter, **Emily Cronin Grothe**, LAB'78; a son; and six grandchildren. *(For more, see "Big Thinker," page 30.*—Ed.)

Paul W. Friedrich, professor emeritus of anthropology, linguistics, and in the John U. Nef Committee on Social Thought, died August 11. He was 88. Friedrich served in the US Army and taught at the University of Pennsylvania before joining the UChicago faculty in 1962. His work encompassed cultural theory, language, and poetics, and ranged from analyses of Mexico's agrarian reform to the connections between American transcendentalism and the Hindu scriptures. He also wrote poetry, producing seven volumes and gaining recognition for bringing together disparate poetic traditions in his work. He retired from the University in 1996, though he continued to teach, receiving the University's Faculty Award for Excellence in Graduate Teaching and Mentoring in 1999. Friedrich is survived by four daughters, including **Su Friedrich**, EX'75; two sons, including **Peter Friedrich**, LAB'79; and three grandchildren.

Halil Inalcik, University Professor emeritus of Ottoman history, died July 25 in Ankara, Turkey. He was 100. Born in Istanbul during the last decade of the Ottoman Empire, Inalcik taught in Turkey and at several US universities before he was recruited to UChicago by history professor William H. McNeill, LAB'34, AB'38, AM'39 (*see below*). He joined the faculty in 1972 and was later named one of the earliest University Professors. Inalcik is widely credited with elevating Ottoman history within the larger field of world history. He was known for his extensive use of source materials in exploring the empire's social, political, and economic history, and his book *The Ottoman Empire: The Classical Age 1300–1600* (1973) has become an essential text for Near East historians. After retiring from the University in 1986, he returned to Turkey and founded the history department at Bilkent University. In 1991 Inalcik received Turkey's Meritorious Service Medal and Diploma for his contributions to the country's history and culture. He is survived by his daughter and his grandson, **Gokhan I. Tezgor**, LAB'88.

Phil C. Neal, Harry A. Bigelow Professor Emeritus of Law and former dean of the Law School, died September 27. He was 97. Neal clerked for a Supreme Court justice and worked at a San Francisco law firm before joining the faculty at Stanford Law School in 1948. In the 1950s and '60s he was appointed to several high-profile government bodies, including a White House task force on antitrust policy. Neal moved to UChicago in 1961 and, during his 21-year tenure at the Law School, taught a wide variety of subjects, including antitrust and constitutional law. He served as the Law School's sixth dean from 1963 to 1975, during which time he hired many influential faculty members, including circuit court justice **Richard A. Posner** and professor **Geoffrey R. Stone**, JD'71. In 1986 he cofounded Chicago law firm Neal Gerber Eisenberg, where he litigated antitrust, trade, and corporate governance cases as a senior partner. His son, Richard C. Neal, LAB'65, died in 2015. Neal is survived by his wife, **Linda Thoren Neal**, AB'64, JD'67; his sons **Stephen C. Neal**, LAB'66, **Timothy Neal**, LAB'70, and **Andrew G. Neal**, LAB'78; 13 grandchildren, including **Harrison Neal**, LAB'09, **Samuel A. Neal**, LAB'11, **John Neal**, LAB'14, **Joseph Neal**, LAB'16, and Laboratory Schools student **Mary Neal**; and one great-grandchild.

William H. McNeill, LAB'34, AB'38, AM'39, the Robert A. Millikan Distinguished Service Professor Emeritus in History, died July 8 in Torrington, CT. He was 98. McNeill served as a military attaché in Cairo during World War II before joining the UChicago faculty in 1947. A world historian who resisted the prevailing trend of focusing on Europe, McNeill studied interactions between continents and cultures. His most famous work, the National Book Award–winning *The Rise of the West: A History of the Human Community* (1963), challenges the view that world civilizations developed independently and emphasizes the role of intercultural exchange from the Neolithic era to the 20th century. At UChicago McNeill helped design the History of Western Civilization Core sequence and received the Llewellyn John and Harriet Manchester Quantrell Award for Excellence in Undergraduate Teaching in 1983. He retired in 1987. McNeill's contributions to world history were honored in 1996 with the Erasmus Prize and in 2010 with the National Humanities Medal. He is survived by two daughters, **Ruth J. McNeill**, LAB'66, and **Deborah J. McNeill**, LAB'67; two sons, **J. R. McNeill**, LAB'71, and **Andrew D. McNeill**, LAB'75; and 11 grandchildren.

Arthur M. Sussman, former UChicago general counsel and vice president, died August 10 in Chicago. He was 73. Sussman served as captain in the US Army and as legal counsel for Southern Illinois University before joining UChicago in 1979. He was general counsel and vice president of administration and Argonne National Laboratory for 22 years, and also taught a seminar on higher education law at the Law School. In 2001 he became vice president at the MacArthur Foundation but stayed connected to the University, sitting on the board of the Seminary Co-op Bookstore and serving as interim director of the Marine Biological Laboratory from 2014 to 2015. He traveled extensively and supported many arts and cultural organizations in Chicago. He is survived by his wife, **Rita P. Sussman**, AM'68, PhD'79; a daughter, **Joanna Ilfeld**, LAB'92; a son, **Eric Harel Sussman**, LAB'87, JD'94; a brother; and six grandchildren.

Gary Toback, professor of medicine, was fatally struck by a car on July 20 in Chicago. He was 74. Toback spent a year in the US Navy Medical Corps before joining the UChicago faculty in 1974. He became an associate professor in 1980 and a full professor in 1985, and served as interim nephrology chief from 2008 to 2015. An authority on kidney disease, he conducted influential research on renal growth factors and, most recently, was collaborating with gastroenterology colleagues on finding proteins that could prevent damage or speed recovery in gastric epithelial tissues. Toback's work led to multiple patents and a biotechnology company, NephRx Corporation, founded in 1995. He was a member of several professional organizations, and last year his influence in nephrology was honored with

a symposium at the University. He is survived by his wife, Phyllis; a daughter; two sons, **David A. Toback**, LAB'87, SM'95, PhD'97, and **Jonathan Toback**, LAB'94; and seven grandchildren.

TRUSTEES

Barry F. Sullivan, MBA'57, University trustee emeritus, died August 11 in Bronxville, NY. He was 85. A Korean War veteran, Sullivan spent his career in finance, serving as an executive vice president at Chase Manhattan Bank, chair and CEO of First Chicago Corporation, and a director of the Federal Reserve Bank of Chicago, among other positions. In 1992 he became deputy mayor for finance and economic development in New York City and was later COO of the city's board of education. An active civic leader, he was president of the Greater New York Chamber of Commerce and supported education and arts organizations. Sullivan was elected to the University's Board of Trustees in 1980, serving as chair from 1988 to 1992 and becoming a life trustee in 1996 and then a trustee emeritus in 2007. He is survived by a daughter; four sons, including **Barry F. Sullivan Jr.**, MBA'86, and **Gerry Sullivan**, MBA'86; and 17 grandchildren.

1930s

Edith M. Spencer, LAB'32, SB'36, died May 20 in Bozeman, MT. She was 100. Spencer worked with Jane Addams at Hull House in Chicago and was a preschool teacher in Vermont. She loved the arts, animals, and outdoor activities. Her husband, Robert C. Spencer, AB'43, AM'52, PhD'55, died in 1999. She is survived by three daughters, two sons, a sister, a brother, 11 grandchildren, and three great-grandchildren.

Joan Lorr, SB'39, SM'41, of Takoma Park, MD, died April 21. She was 98. Lorr was involved in civil rights and social and environmental advocacy while raising a family. In her 50s she earned a PhD in psychology and then worked as a neuropsychologist at the Department of Veterans Affairs for many years. Her husband, Maurice Lorr, PhD'43, died in 1998. She is survived by a daughter, a brother, two grandsons, and a great-granddaughter.

George H. Sahler, AB'39, died August 13 in Richland, WA. He was 98. Sahler served in the US Navy during World War II before joining General Electric, and later worked for Isochem, Arco, and Rockwell in employee and public relations. He enjoyed playing golf and, in retirement, bridge. He is survived by a daughter, a stepdaughter, two stepsons, two granddaughters, two grandsons, and seven great-grandchildren.

1940s

Ann (Baumgart) Gianelli, AB'41, of Pebble Beach, CA, died April 5. She was 96. Gianelli was an active volunteer, giving her time to Oakland Public Schools, the Del Monte Forest Foundation, and a local aquarium. She enjoyed golf, bridge, and bird-watching. Her first husband, Paul Baumgart, AB'42, died in 1988. Gianelli is survived by her husband, Bill, and two sons.

Benson Earl Ginsburg, PhD'43, died August 17 in Storrs, CT. He was 98. A pioneer in behavioral genetics, Ginsburg was the William Rainey Harper Professor of Biology at UChicago from 1943 to 1968, receiving a Llewellyn John and Harriet Manchester Quantrell Award for Undergraduate Teaching in 1947. He then founded the behavioral sciences department at the University of Connecticut, where he taught until 1997. Ginsburg is survived by three daughters, including **Judith Meyer**, AB'67, and **Deborah Szajnberg**, AB'70; three granddaughters; three grandsons; and three great-grandchildren.

Frank Johnson, SB'43, died July 30 in Benzonia, MI. He was 100. Johnson was an officer in the US Navy Medical Corps during the Korean War, and in 1954 established a pediatric surgery practice in Hinsdale, IL. He served as an attending surgeon at several Chicago-area hospitals and was a charter fellow in the American Pediatric Surgery Association. He is survived by two daughters, a son, three granddaughters, four grandsons, and three great-grandchildren.

Dorothy Helen Duncan Storer, LAB'41, AB'43, SM'45, died July 22 in Shoreline, WA. She was 92. Storer taught at the Laboratory Schools in Chicago, tutored veterans in California, ran for office in Tennessee, and golfed in Connecticut. She also enjoyed scuba diving and playing bridge. Her husband, Edward H. Storer, SB'43, MD'45, died in 1983. She is survived by a daughter and a son.

Katherine (Adams) Wenban, SB'43, died June 25 in St. Paul, MN. She was 97. Wenban worked as a legal secretary and elementary school teacher and was an amateur real estate investor. She enjoyed hosting friends and family, and her interests ranged from liberal politics to boat rides on Lake Wisconsin. She is survived by three daughters, including **Barbara W. Busca**, SM'69, and **Beatrice A. Murray**, AB'69; a sister; a brother; five grandchildren; and six great-grandchildren.

Kenneth S. Axelson, LAB'39, AB'44, died May 23 in Rockport, ME. He was 93. Axelson worked as an accountant at two firms before joining J. C. Penney in 1963, where he rose to executive vice president and CFO. During New York City's 1975 fiscal crisis he was recruited as the city's first deputy mayor for finance and implemented a successful recovery plan. After retiring to Maine in 1981, he enjoyed sailing and participating in philanthropic activities. He is survived by four sons, eight grandchildren, and six great-grandchildren.

Alice Victoria Sklansky, BSS'46, AM'49, died June 6 in Wilmette, IL. She was 92. Sklansky taught social work in the Chicago area, retiring as a consultant and mentor at the House of the Good Shepherd. She was a patron of the arts and enjoyed learning about other cultures. She is survived by a daughter, two sons, a brother, and three grandsons.

Henriette Blinder Preiss, AB'47, died June 2 in Grass Valley, CA. She was 88. Preiss spent her career teaching children with disabilities and published many works on special education. A devoted patron of the arts, she read the entire *New York Times* daily. She is survived by her companion, Jerome; two sons; a sister; and a granddaughter.

Edmund "Ted" L. DuBois, SM'48, died August 13 in Sonoma, CA. He was 97. DuBois spent 30 years in the US Army, serving in the South Pacific during World War II and later with the Joint Chiefs of Staff, NATO's Paris command, and then as commander of missile defense for the West Coast. He retired as a brigadier general in 1971 and later worked at the Stanford Research Institute. He enjoyed skiing and writing historical novels. DuBois is survived by his partner, Lucinda Hamilton; a daughter; three sons, including **John William DuBois**, AB'73; a brother; and five grandchildren.

Lawrence Howe, JD'48, died July 31 in Evanston, IL. He was 94. A US Navy veteran, Howe was a partner at Vedder Price, a legal executive at film machinery maker Bell & Howell, and then chief financial and legal officer and later vice chair at Jewel Companies. He was also the founder and executive director of the Commercial Club of Chicago's Civic Committee, where he advocated for airport expansion and school reform. He is survived by two daughters, two sons, six grandchildren, and four great-grandchildren.

Thomas R. Magorian, PhB'48, SB'49, SM'49, PhD'52, died June 17 in Maryland. He was 87. A petroleum geologist and geophysicist, Magorian worked for the US Army Corps of Engineers, Shell Oil, Calspan, and Tipco, and spent the last 30 years of his career as an independent consulting geologist. He helped determine the location of the Trans-Alaska Pipeline in the 1970s, advised the US Department of Energy and Exxon, and drilled his own successful oil fields. His wife, Roslyn (Luben) Magorian, EX'52, died in 2014. He is survived by a daughter and a son.

Barbara Jacobson "BJ" Seymour, PhB'48, AM'62, of Portland, OR, died May 22. She was 86. Seymour spent the first 18 years of her career in Oregon's public welfare department. She moved into public relations at the state's new Department of Environmental Quality in 1971, later lobbying for several other organizations. In 1986 she began teaching social work and English at Pacific University and working part time as a gender identity counselor. She is survived by two sons and two grandchildren.

Paul E. Weiss, PhB'48, died August 25, 2015, in Santa Fe, NM. He was 90. Weiss earned five distinctions, including a Bronze Service Star, for his Navy service

during World War II. After the war he joined his father's (Morton B. Weiss, PhA 1917, PhB 1918) Chevrolet dealership, later starting his own in Palo Alto, CA. Weiss enjoyed traveling and volunteering. He is survived by his wife, Barbara; a daughter; two sons; a sister; and two grandsons.

Aryeh Blumberg, AB'49, AM'51, PhD'73, died January 7 in Montclair, NJ. He was 87. A student of Milton Friedman, AM'33, and Harry Johnson, Blumberg was a professor of economics at Montclair State University from 1979 to 1999. He also taught at Harvard Summer School, where he spent 20 years as the director of the summer economics program. A Korean War veteran, he offered free courses and did other pro bono work for the military throughout his career. He is survived by his wife, Broeck.

William F. Conner, AM'49, of Greenwich, CT, died July 31. He was 91. Conner was a college instructor, workers' compensation insurance salesman, social worker, and journalist before becoming a lawyer in 1971. He then spent most of his legal career adjudicating employment claims for the State of Missouri. He is survived by three daughters, a son, 10 grandchildren, and four great-grandchildren.

1950s

John R. Coleman, AM'49, PhD'50, died September 6 in Washington, DC. He was 95. Coleman was the president of Haverford College from 1967 until 1977, resigning when the board of directors refused to make the college coed. While on sabbatical in 1974, he secretly held a series of blue-collar jobs, experiences that became an autobiographical book and then a TV movie. In 1986 he moved to Vermont and opened an inn, later operating a local weekly newspaper and presiding over one of the country's first same-sex civil unions as a justice of the peace. Coleman is survived by a daughter; two sons, including **John Michael Coleman**, JD'78; and seven grandchildren.

William J. Kirwin Jr., AM'51, PhD'54, died August 4 in St. John's, Newfoundland and Labrador. He was 91. Kirwin served with the US Army Corps of Engineers during World War II and joined the English department at Memorial University in Newfoundland in 1959. An expert on the language of the province, he coedited the *Dictionary of Newfoundland English* (1982) and developed the university's English Language Research Centre. He became a professor emeritus in 1987 and continued to work and teach until 2012. He is survived by a sister.

Clyde Curry Smith, DB'54, AM'61, PhD'68, of River Falls, WI, died August 5. He was 86. An ordained minister and expert in ancient history, Old and New Testament studies, and Semitics, Smith joined the faculty of the University of Wisconsin–River Falls in 1965 and was promoted to full professor in 1972. After retiring in 1990, he was on the board of the River Falls Library Foundation and a supporter of UChicago's Disciples Divinity House. He is survived by a daughter; a son, **Harald Smith**, AB'82, AM'82; and seven grandchildren.

Thomas Jenkins, AM'55, died April 11 in Hilliard, OH. He was 93. Jenkins was a professor of sociology and planning at the University of Cincinnati, retiring with emeritus status. He was a planning adviser for numerous US cities and donated regularly to many charitable causes. He is survived by a sister.

Judith J. (Sensibar) Glasser, LAB'52, EX'56, of Trout Lake, NY, died November 23, 2015, in Valladolid, Spain. She was 79. Glasser enjoyed reading, cooking, traveling, and spending time with family. She is survived by her husband, **M. Lawrence Glasser**, AB'53, SM'55; two daughters; two sons; a sister, **Minda Rae Amiran**, LAB'48, AB'51; a brother, **David Sensibar**, LAB'57; 12 grandchildren; and four great-grandchildren.

Martin "Marty" Krasnitz, AB'57, AB'58, of Chicago, died in July. He was 80. A US Navy veteran, Krasnitz worked with his father and brother at the Sewing Machine Exchange. He enjoyed studying World War II history, sailing, traveling, and reading. He is survived by his wife, Betsy; a sister; and a brother, **Ron Krasnitz**, MBA'66.

Edward S. Hintzke, AB'58, JD'60, of Winnetka, IL, died April 7. He was 78. Hintzke was a US Air Force veteran, serving first in active duty and then retiring as a lieutenant colonel from the Air Force Reserves. He later worked in US Citizenship and Immigration Services and as assistant general counsel for the US Railroad Retirement Board. He retired in 1993. He is survived by his wife, Teresa; a daughter; a son; and two granddaughters.

Rae Dezettel Perls, AB'59, of Albuquerque, NM, died July 30. She was 79. One of the first women to become a licensed clinical psychologist in New Mexico, Perls ran a private practice for more than 35 years, specializing in women's and family issues. She also mentored other therapists and was active in community organizations. She is survived by her husband, **Stephen R. Perls**, AM'59; a daughter; a son; three grandchildren; and two step-grandchildren.

1960s

Marvin Gittler, JD'63, died September 8 in Union Pier, MI. He was 77. A labor lawyer, Gittler worked for the National Labor Relations Board before entering private practice. He negotiated contracts for Chicago police officers, Chicago Public Schools employees, and McCormick Place construction workers, and represented *Chicago Tribune* staffers during an extended strike. He retired in 2015. He is survived by his wife, Carol; four daughters, including **Debra L. Gittler**, LAB'98; a sister; two brothers; and eight grandchildren.

Kit Susan Kollenberg, LAB'59, AB'63, AM'68, of Los Angeles, died March 31. She was 74. Kollenberg was active in early childhood development and education issues, and cowrote *The Working Parents Handbook* (1996). She was involved with planning the first Folk Festival at UChicago in 1961 and returned to campus annually for the festival weekend. She is survived by her husband, Gary Blasi; two sons; and a granddaughter.

P. Donald Herring, AM'61, PhD'64, died July 5 in Indianapolis. He was 79. Herring taught at the University of Chicago before becoming chair of the English department at Wabash College in 1971. He was promoted to full professor in 1980 and served as Wabash's dean from 1993 to 1999, retiring in 2007. He is survived by his wife, Johanna; a daughter; a son; a granddaughter; two grandsons; and three great-grandchildren.

Frederick Bayard Hoffmann, AB'64, died August 21 in Springfield, IL. He was 74. Hoffmann practiced law for almost 50 years, first with Hoffmann and Hoffmann and later with Sorling Northrup. He enjoyed traveling and the arts and was active in community organizations including the Abraham Lincoln Association and the Sangamon County Historical Society. He is survived by his wife, Kathleen; two daughters; three brothers, including **George C. Hoffmann**, AM'56, PhD'61; and four grandchildren.

Henry Hideo Nonaka, AB'64, died July 2 near Tule Lake, CA. He was 73. Nonaka worked for Corn Products International (now Ingredion) for 44 years and held two patents for food chemistry advances. An avid traveler, he spent part of his career living in Bangkok and visited all seven continents. He enjoyed Chicago Cubs baseball and the wisdom of Yoda. He is survived by his wife, Gail; a daughter, **Fawn Nonaka Galbraith**, JD'07; two sons; two brothers; and four grandchildren.

Cynthia Samaras, AB'64, of Boston and Cranston, RI, died on June 29. She was 74. Fluent in more than five languages, Samaras directed the Berlitz School of Languages in Boston and provided language and translation services to clients around the world. In 1984 she became the owner, CEO, and executive director of the Inlingua School of Languages and Boston Translation Company. She is survived by her mother, a sister, and a brother.

David P. Backus, LAB'58, DB'65, of Schwangau, Germany, died December 21, 2015. He was 75. Backus held a doctorate in philology and a medical degree; he was a doctor in Chicago before moving to Europe to pursue his interests in the humanities. He studied Marcel Proust in France and was later an organist in Germany, performing in local and international concerts and competitions. He is survived by his wife, Roberta.

Peter Lindberg, MD'65, died September 13 in Albuquerque, NM. He was 76. Lindberg spent two years in the US Air Force and almost 45 years practicing medicine in New Mexico. Since 1992 he focused primarily on treating prostate cancer, and

presented regularly at urological and oncological conferences. He enjoyed bicycling, gardening, and singing in his church's choir. He is survived by his wife, Mary, and two daughters, including **Kirstin E. Lindberg**, MD'04.

Michael J. Schneider, PhD'65, of Ann Arbor, MI, died August 15. He was 77. Schneider taught biology at Columbia University before joining the University of Michigan–Dearborn faculty in 1973. A botanist, he served as chair of the natural science department five times and also served as associate and interim provost before retiring in 2003. He is survived by his wife, Janet; a son; and two grandchildren.

Joel I. Beck, AB'66, AM'71, PhD'78, of New York City, died January 28. He was 71. A psychoanalyst and psychotherapist, Beck was the residence director at a mental health and housing solutions nonprofit for 11 years while maintaining the private practice he ran for nearly five decades. He is survived by a daughter, a son, a sister, and four grandchildren.

Geoffrey B. Heron, AB'66, MD'71, of Boulder, CO, died August 20. He was 72. A psychiatrist and psychoanalyst, Heron worked in both inpatient and outpatient settings and taught at the University of Colorado Health Sciences Center and the Denver Institute for Psychoanalysis. He was a distinguished fellow of the American Psychiatric Association and the president of the Denver Psychoanalytic Society. An avid outdoorsman, he scaled many of Colorado's mountain peaks and enjoyed skiing and playing basketball. He is survived by his wife, Joan; a son; two stepsons; and a sister.

Paul G. Stimson, SM'66, of Sugar Land, TX, died July 31. He was 84. A former US Navy hospital corpsman, Stimson taught oral pathology and forensic dentistry at the University of Texas's dental school for 32 years. Later he was a forensic odontologist for the Harris County medical examiner's office and was a member of the Disaster Mortuary Operational Response Team in New York City following the September 11 attacks. He is survived by his wife, Ardell; two daughters; a son; a brother; and three granddaughters.

John "Jack" Tossell, SB'66, died April 25 in Rockville, MD. He was 72. Tossell joined the University of Maryland faculty in 1973 as a professor of chemistry. He was a founder of a new field, computational geochemistry, and published more than 200 papers. Tossell retired from UMD with emeritus status in 2009 and in 2011 was awarded the American Chemical Society's Geochemistry Medal for his work in computational quantum chemistry. He is survived by his wife, Julia; a daughter; a son; and a sister.

Richard R. Beeman, PhD'68, of Philadelphia, died September 5. He was 74. A constitutional historian, Beeman was on the faculty of the University of Pennsylvania for 43 years, during which time he chaired the history department and served as dean of the College of Arts and Sciences. He was a trustee of the National Constitution Center and an avid marathoner. Beeman is survived by his wife, Mary Cahill; a daughter; a son; a brother; and two grandchildren.

1970s

David Strong Flight, PhD'70, died January 14 in Middlebury, VT. He was 89. A US Navy veteran, Flight taught and served as a principal in elementary schools in Connecticut and Missouri. He was later on the education faculty at the University of Massachusetts Amherst and at Nova University in Florida. Flight enjoyed singing and volunteering in his community. He is survived by his wife, Vera; two daughters; a son; a sister; a brother; a granddaughter; and two grandsons.

Robert Steven Pomerance, EX'72, died of cancer on June 23 in Washington, DC. He was 69. A tax lawyer, Pomerance served with the appellate section of the Justice Department's tax division and was later counsel to the US Tax Court's chief justice. He was also an adjunct instructor at several Washington, DC–area law schools, continuing to teach after his retirement in 2011. Pomerance is survived by his wife, **Betty Ferber**, AB'68, AM'72; two daughters; a granddaughter; and a grandson.

Paul Green, AM'66, PhD'75, of Chicago, died September 10. He was 73. A political scientist, Green was the director of the Public Policy Institute at Governors State University before becoming a professor and then director of the Institute of Politics at Roosevelt University. He also served as chair of the City Club of Chicago, wrote books and articles on Chicago politics, and appeared as a pundit on local and national media. He is survived by his wife, Sharon; a daughter; and a brother.

Gayle Harvie Sirkin, AM'76, died of cancer on August 3 in Hamden, CT. She was 64. A psychotherapist who specialized in trauma and post-traumatic stress disorder, Sirkin treated more than 6,000 patients during her career. She also taught psychotherapy at Yale University and at local high schools. Sirkin is survived by her husband, Ryszard Szczypek; two sons; a granddaughter; and a grandson.

Peter Bromley, AB'79, died September 2 in Jacksonville, FL, following a brief illness. He was 60. An avid tabletop gamer, in 1981 Bromley cofounded Mayfair Games, the US publisher of Settlers of Catan, and remained involved with the company until earlier this year. He traveled frequently, often to play or demonstrate games, and enjoyed hosting friends and family. He is survived by his mother and three brothers.

Marilou McCarthy von Ferstel, AM'79, died August 31 in Chicago. She was 78. Von Ferstel was a society columnist for the *Chicago Tribune* before becoming one of the first two women elected to Chicago's city council in 1970. She later held positions with Chicago's Zoning Board of Appeals and the Democratic National Committee, and then was an executive at two public relations firms. She is survived by her husband, Baron Henry von Ferstel; a daughter; a son; three stepdaughters; six grandchildren; and five step-grandchildren.

1980s

Anne E. Patrick, AM'76, PhD'82, of Silver Springs, MD, died July 21. She was 75. A nun and feminist theologian, Patrick became the first tenured woman professor in Carleton College's religious studies department in 1980. She was a staunch advocate of women entering the priesthood, working with national Catholic organizations and writing extensively to promote gender equality. She retired from Carleton in 2009 and in 2013 received the Catholic Theological Society's highest award for her scholarship and service. She is survived by four sisters and a brother.

1990s

Robert Wells Carton, AM'90, died August 15 in Evanston, IL. He was 95. A physician, Carton ran an internal medicine practice and taught at the University of Illinois medical school and later at Rush Medical College. After resigning his Rush faculty appointment in 1987, he attended the Divinity School and then taught medical ethics as a member of Rush's Department of Religion, Health, and Human Values from 1990 to 1994. He is survived by three daughters, a son, eight grandchildren, and three great-grandchildren.

Deborah Shiu-Lan Jin, SM'92, PhD'95, died of cancer September 15 in Boulder, CO. She was 47. An atomic physicist at the University of Colorado Boulder and the National Institute of Standards and Technology, Jin was an expert and pioneer in matter that only exists in temperatures near absolute zero. She received a MacArthur Fellowship, the Comstock Prize in Physics, and many other awards for her work. She is survived by her husband, **John Bohn**, SB'88, SM'92, PhD'95; a daughter; her mother; a sister, **Laural Shiu-yah Jin O'Dowd**, AB'92, JD'97; and a brother.

2000s

Jack Hsu, MBA'00, died of complications from Parkinson's disease January 31 in Chicago. He was 61. The first foreign student accepted to Case Western Reserve University's medical school, Hsu was a cardiothoracic surgeon and codirected the heart transplant program at University Hospital in Cleveland before moving into private practice. After his Parkinson's diagnosis Hsu attended Chicago Booth and joined a medical device firm focused on helping heart failure patients who do not qualify for transplants. He is survived by his wife, Sharlene Young; a sister; and a brother.

CHICAGO CLASSIFIEDS

SERVICES

INVESTMENT MANAGEMENT/FINANCIAL PLANNING Our disciplined approach to tactical asset allocation applies leading academic theory to target optimal risk-adjusted returns. Coupled with comprehensive financial planning, we can provide peace of mind to make financial decisions with confidence. SECURITY–TRUST–PEACE OF MIND–PINNACLE. James J. Stork, CFP, CFA, MBA'87. 708.246.6262. jim@mypinnaclefinancial.com, mypinnaclefinancial.com.

German-to-English translator, ghostwriter, author, editor, and proofreader. Trans. include ethics by Brentano and Kraft, articles by Reichenbach, memoirs Franco-Prussian War. Ghostwriter for E. Elmer, *Children in Jeopardy*. Original articles in social work journals. Editor JAMA, AMA. BA and MA in philosophy (UChicago and Brown), MSW (U. MD). Elizabeth Hughes Schneewind, MA, LCSW. 718.783.0003, ehschneewind@nyc.rr.com.

End of life advisory services. Health Resources, Ltd. 954.579.4124.

RENTALS

Rome: Spacious, stylish, renovated apartment. Wi-Fi. Elevator. Easy access to major sights. Metro San Giovanni. Two double bedrooms, two baths. $850/week. www.casacleme.com, lm603@columbia.edu.

EVENTS

49090 Club: Interested in forming a book club or discussion group in or near South Haven, MI? Contact Donald Wheat, DB'58, at 269.637.5711.

FOR SALE

Beachfront homesites on the NW Oregon Pacific Ocean. Only 90 minutes from Portland, near Cannon Beach. Two sites: 3/4 and 2.5 acres each with ocean view, steps away from the water, priced $160K and $600K, respectively. Very tranquil, peaceful, exclusive beach and easy reach from Portland. Contact: Christopher, 503.292.1663 or 399kang@gmail.com.

WANTED

Inkwater Press publishes book-length fiction, nonfiction, and poetry. Royalties. 503.968.6777. inkwaterpress.com.

Hyde Park Cats, your local not-for-profit cat/kitten rescue organization, needs your help! We seek fosterers, adopters, volunteers of many types, and donors. Read more and join our mission for a humane Chicago, where every cat is a wanted cat at hydeparkcats.org.

***Magazine* readers needed:** The *Magazine* team is currently building a new website to archive stories from our print issues and host online-only content. Before officially launching next year, we want to get feedback from readers like you. Volunteers will be asked next spring to preview the new website and complete a few tasks, noting any challenges. If you have 15–20 minutes to help, please email uchicago-magazine@uchicago.edu. Thanks!

Good reads.

Find great books written by your fellow alumni on the *Magazine*'s Goodreads shelf.

Go to **mag.uchicago.edu/alumni-books** to browse our collection by UChicago affiliation or to submit your book.

Chicago Classifieds Reach 155,000 Readers

AD RATES $3 per word, 10-word minimum.

DISCOUNTS 5% for advertising in 2–3 issues and 15% for 4 or more issues.

DEADLINES December 29 for the Winter 2017 issue. To learn more, visit mag.uchicago.edu/advertising.

ADVERTISING CATEGORIES (Check one.)

❒ For Sale ❒ Professional Services ❒ Events
❒ Real Estate ❒ Personals ❒ Travel
❒ Rental ❒ Wanted ❒ Other

Name

Daytime Phone

Email

PAYMENT MUST ACCOMPANY ORDER
❒ Visa ❒ Mastercard ❒ Discover

Account # Exp. Date

❒ Check (Payable to *University of Chicago Magazine*.)

Submit form, typed classified advertisement, and payment via email to uchicago-magazine@uchicago.edu, or by fax to 773.702.8836, or by mail to *The University of Chicago Magazine*, 5235 South Harper Court, Suite 500, Chicago, IL 60615.

LITE OF THE MIND ANSWERS

1. UChicago prompt
2. *The Breakfast Club* (1985)
3. UChicago prompt
4. *Weird Science* (1985)
5. UChicago prompt
6. *Ferris Bueller's Day Off* (1986)
7. *The Breakfast Club* (1985)
8. UChicago prompt
9. *Sixteen Candles* (1984)
10. UChicago prompt
11. *Ferris Bueller's Day Off* (1986)
12. UChicago prompt
13. UChicago prompt
14. *Some Kind of Wonderful* (1987)
15. UChicago prompt
16. *The Breakfast Club* (1985)

1. Who would buy a jar of mustard a foot and a half tall? 2. Could you describe the ruckus? 3. What does Play-Doh have to do with Plato? 4. How come all of a sudden your parents trust you? 5. How did you get caught? 6. I mean, really, what's the point? 7. What would you be doing if you weren't out making yourself a better citizen? 8. How do you feel about Wednesdays? 9. Did anyone ever forget your birthday? 10. What's so odd about odd numbers? 11. Where's your brain? 12. So where is Waldo, really? 13. How are apples and oranges supposed to be compared? 14. Do you understand the concept of the word "privacy"? 15. Seriously, how cool is the mantis shrimp? 16. We think you're crazy to make us write an essay telling you who we think we are.

Sixteen questions

Every year the UChicago admissions office asks would-be Maroons to tackle uncommon essay prompts. But some of the trains of thought that take high school students to Hyde Park sound a lot like what high schoolers think about in Shermer, Illinois—the fictional North Shore neighborhood that serves as the setting for many of filmmaker John Hughes's movies.

Can you tell which lines are taken from UChicago essay prompts, and which are from a classic Hughes flick? For answers, see page 95.

—Helen Gregg, AB'09

Explore past essay questions at mag.uchicago.edu/uncommonqs.