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THE UNIVERSITY **CHICAGO** MAGAZINE

SPRING 2018 VOLUME 110, NUMBER 3



In "Let's Get Lost" (page 32), Edward Tenner, AM'67, PhD'72, argues against overrelying on **GPS technology in our** navigations of the world. Illustration by Maria Corte.



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Remember road trip bingo? Play our version on the quadrangles.



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UNIVERSITY **CHICAGO MAGAZINE**



EDITOR'S NOTES

Volume 110, Number 3, Spring 2018

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The air we breathe

BY LAURA DEMANSKI, AM'94



hat's the last book you read by an alum? Was it by someone you knew, or are only one or two degrees of separation from? The book on my nightstand now, and the one queued up after it, are by alumna Janet Lewis,

PhB'20. She's not too well remembered today, and even I first learned of her as the wife of Yvor Winters, EX'21, the poet and critic who became best known as a teacher of poets.

Lewis herself began as a poet before turning to historical fiction, which she wrote while raising children and keeping a household that served as a sometime home to many of Winters's students. She wanted to take up fiction but felt she lacked a story to tell, so she turned to historical figures including Martin Guerre and John Johnston.

The Irish Johnston, whose life events sparked her 1932 novel The Invasion: A Narrative of Events Concerning the Johnston Family of St. Mary's, came to Lake Superior in 1790 to make his fortune and married into an Ojibwa chief's family. Lewis, who grew up in Oak Park, Illinois, spent long summers in northern Michigan and heard stories of Johnston and his wife, the Woman of the Glade, from their descendants, to whom she dedicated the book.

Much as Lewis learned about John-

ston through a chain of family members who'd carefully tended the stories handed down to them, so the UChicago writers' community Lewis belonged to is connected from the institution's beginnings to today. Classmates of mine studied fiction writing with the late Richard Stern, who in 1991 drove from San Francisco to Los Altos, California, to visit Lewis, then 91. He spent a whole day at her home hearing about UChicago in the 1910s, her Poetry Club friends there, and the rest of her life, and recorded it all in a 2003 Virginia Quarterly Review essay.

How sharply happy I was to find Stern's essay online. It wouldn't have existed but for him having run across a book in the Regenstein poetry stacks, and but for Lewis's long life and long memory—a lucky thing it was.

Much of the joy of editing the Magazine is in helping hand down what UChicagoans remember. This issue is no exception. Former president Hanna Holborn Gray's new memoir An Academic Life, the subject of "The Long View" (page 20), deepens the well of stories that make up our history as a University. One letter writer shares a melancholy story about Enrico Fermi, vouchsafed to him by his alumnus father, Fermi's physician (page 6); another relates his own tale of being gently hazed by Robert Maynard Hutchins himself (page 8).

We at the Magazine, and your fellow readers, treasure your stories and need them like air. Please keep sending them. •

LETTERS

Moonlighting mathematician

Your article about Eliot Ness, PhB'25 ("Out of the Shadows," Winter/18), brought to mind another University of Chicago connection with the legend of the Untouchables. In the climactic scene of the 1987 movie, the Ness character bluffs

Besides having a distinguished career as a probabilist, Billingsley acted in numerous plays.

a corrupt judge into switching the jury, which Capone has bribed, with a clean jury from another case. The "second bailiff" who swaps the juries was played by the late Patrick Billingsley, a longtime U of C professor of statistics and mathematics. Besides having a distinguished career as a

probabilist, Billingsley acted in numerous plays at Court Theatre and other venues, as well as in several movies filmed in Chicago. For example, he appears briefly as the biology teacher in *My Bodyguard* (1980).

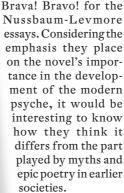
Daniel Heitjan, SB'81, SM'84, PhD'85 CARROLLTON, TEXAS

Late life lessons

In reading Martha Nussbaum's and Saul Levmore's essays about aging ("Looking Back," Winter/18), the word I kept expecting to find but didn't was karma, and I don't find it in their book either, via a "Look Inside" search on Amazon. In their Westerncentric view I think they have overlooked a very useful concept for aging thoughtfully and coming to a productive and insightful understanding of the connections in one's past, present, and possible future. I recommend it to them and to everyone.

before the Greek and Roman foundational thinkers were bandying ideas, and it deserves a place among the grand frameworks we use for constructing narratives about ourselves. Like other such structures, it doesn't lend itself perfectly to verification by experiment, but it gives better returns than many other explanatory frameworks. At the very least, it's a useful heuristic. And if karma is really a thing—who's to say it's not—why not poke around in it to come to a helpful understanding of why things are the way they are in your life?

Orin Hargraves, AB'77
NIWOT, COLORADO



Ken Shelton, AB'69 (Class of 1968) GALVESTON,



Essay appreciation

"A Chaplain's Compassion" (Winter/18) by Bailey Pickens, AB'10, is the best article you've ever published. And that's saying a lot (because of the longtime excellence of your editorial).

Carol DeChant

SARASOTA, FLORIDA

Secret history

In "Where the Art Is" (Winter/18), Susie Allen, AB'09, writes that the Art to Live With program was founded in 1958. I remember an art loan program prior to that. When I was a first-year student in 1956-57, living in Mathews House, Burton-Judson, there was a program in which students in the dorms could borrow framed works of art, at no charge, for the academic year. All you had to do was to go to Ida Noyes Hall and ask for one. As I recall, the loans were made from a cloakroom on the ground floor. There were prints by Paul Klee, Georges Rouault, and other famous artists. I got one by Leon Golub, AB'42-black and white, possibly in lithograph crayon, a very serious subject, befitting a new student in the College. Golub was already well known by then. I was delighted to have a "real" work of art in my room.

> Harvey Choldin, AB'60, AM'63, PhD'65 CHICAGO

According to Emily Edwards, Art to Live With registration and programming coordinator at the Smart Museum of Art, the University has few records of the early days of Art to Live With and relies on archival and alumni recollections like Harvey Choldin's "to help us create a sort of institutional history of the program." His letter is the first Edwards has heard of any program activity before 1958, when it was in fact operated out of the Office of Student Activities in Ida Noyes Hall, as Choldin recalls. The artwork that he borrowed is likely Golub's lithograph Totemic Crucifixion.—Ed.

What do you know?

The *Magazine* came this week. The first thing I noticed was a headline: "In the Know" (UChicago Journal, Winter/18), an article about the new Stevanovich Institute, whose mission is the question: How do we know what we know? In one course I took in my

second year at UChicago, the opening line was: we are going to inquire into how we know what we know.

Wow, in that one sentence, I was hooked, and continue to be. I have studied many fields since then: business, public health, law, and more. The question resonates still. My wife, Barbara McCool, and I have a near-finished book titled "Active Aging, Designing a Life." In our research into how to best live a healthy lifestyle, we read widely, guided by asking, how do the writers know what they purport to know? Exercise, healthy eating, friendship networks, spirituality, and more appear widely. Yet when it comes down to how they know what they purport to know, there is a wide gap. For me it remains the UChicago way: I follow those whose research seems sound and whose findings are relevant to my quest. In fields not lending themselves to scientific research, I lean toward those whose reasoning is good and relates well to science that sheds some light on behavior.

To me UChicago hews closest to the fundamental question, how do we know what we know? Second to that, how does this professor or this discipline approach its work? How do they discover what might be the best theory to fit the known facts? What can they teach me about how to think about things? How can I know what I think I know and convey it to others for their consideration? UChicago to me is about the life of the mind, and learning is a lifelong endeavor.

I have very little recollection of the many courses taken at the University, but the basic question is alive and well. One book, The Red and the Black (1830), by Stendahl, continues to flit in and out of mind without any thought of content, but this morning I began a new painting, Red and Black, to split a canvas. The Stendahl title haunts my thoughts and now comes back as colors that go well together on canvas. Perhaps it is time to read the book again.

> Monty Brown, AB'59, MBA'60 KANSAS CITY, MISSOURI

Punstoppable

In his Nobel Banquet speech, 2017 Economic Sciences laureate Richard Thaler exhorts nudge-letarians globally to use the prod and preadjust of choice architecture to "Nudge for good. ... Nudge for the greatest ben-

Wow, in that one sentence, I was hooked, and continue to be.

efit of mankind" ("Good Behavior," UChicago Journal, Winter/18).

Bend them like Bentham. To the vectored go the spoils. Choice architecture ploys can be the best-laid schemes of mise-en-scène. Array of hope.

Philip Frankenfeld, AM'81, PhD'89 WASHINGTON, DC

A counterpoint

Nathan Aviezer's (SM'59, PhD'65) letter (Winter/18) correctly points out that the Japanese death toll from US conventional bombing in World War II exceeded 500,000, and uses that to draw the conclusion that a "demonstration of power" of nuclear bombs wouldn't have compelled the Japanese government to surrender. Curiously, he doesn't carry his own reasoning further to ask how it could have been that the far fewer civilian deaths at Hiroshima and Nagasaki brought the war to a conclusion. The most reasonable answer is that they didn't—the war in the Pacific was brought to its conclusion not by the use of nuclear bombs but by the entry of the Soviet Union into the war with Japan. See Ward Wilson's article "The Winning Weapon? Rethinking Nuclear Weapons in Light of Hiroshima" (International Security, Spring 2007).

Bob Michaelson, SB'66, AM'73 EVANSTON, ILLINOIS

A life in stories

I started studying with Jonathan Z. Smith (Deaths, Winter/18) after Henry Rago, head of the New Collegiate Division's History of Religion (no "s"), died far too young. We five or six students were dispatched to History of Religions, a discipline of a different color, the hue of Mircea Eliade, whom Smith admired. In his modern but diminutive office, Jonathan introduced himself with vignettes.

How at Santa Barbara, as his lectures got more popular, they piped them by television into a lecture hall. But they required him to wear a tie, which he refused to do. So they painted a tie on the screen; the tie didn't move, Jonathan did. Another victory

for the antiauthoritarian Jonathan.

When he was sitting with Eliade one evening, Jonathan noticed Eliade was ailing from some flu or such. When Jonathan expressed concern, Eliade responded, "We will take care of it." And Jonathan understood that Eliade would do something shamanistic to help himself.

Ionathan described growing up in Manhattan. He became interested in Eastern religions sufficiently that he engaged a teacher of Zen (as I recall). One of his final exams: Jonathan was to attend a large cocktail party with his Zen master, who stood in one corner of the crowded room (in some apartment with a view of Central Park, as I imagined). Jonathan was to stand in the opposite corner. The Zen master spoke softly and Jonathan was to hear what his teacher was saying. After that, I was cautious to shield my lips when I wanted to speak to someone else in Jonathan's presence.

Now, my falling away from the way. Jonathan encouraged me to stay in History of Religions. He said he would escort me to the Modern Language Association or such meetings after my PhD so that I would get a job. He thought I could find something in Austin, Texas, or such. I, Jewish immigrant that I was, thought, "What's a Jew to do in Austin?" I remembered the vignette he gave of visiting Texas (perhaps for a job interview). He went to a real cowboy-type bar. He stood with one foot on the rail and ordered something. A real cowboy sauntered in, bellied up to the bar, and said "Gimme a shot of Manischewitz." Apocryphal? Well, a good story.

I wrote a BA proposal to study Maimonides's Guide for the Perplexed (University of Chicago Press, 1963, with an introduction by Leo Strauss with the help of Ralph Lerner, AB'47, AM'49, PhD'53). Lerner was assigned as my adviser. I was handed a two-page single-spaced reading list—some texts in Hebrew, some in Arabic, some in Greek and Latin, of course. I spent a hot summer in non-airconditioned libraries starting to read. That fall, I switched to premed.

A dedicated teacher, a precious man, Jonathan Smith.

> Nathan Szajnberg, AB'74 (Class of 1971), MD'74 PALO ALTO, CALIFORNIA

IFTTFRS

Invitation on ice

Laura Demanski (AM'94), you skate backward? (Editor's Notes, "Cold Comforts," Winter/18.) How did you miss being recruited by a member of the Maroons Women's Hockey team (icehockey.uchicago.edu), a small but enthusiastic group of mixed abilities who traverse Chicagoland at ungodly hours for the thrill and adrenaline fix of a strenuous hour of hockey on cheap ice to empty stands. The 2016-17 Division 5 champions in the Women's Central Hockey League, this club team, self-coached and captained by the highest ranked undergraduate, is bolstered by assorted UChicago staff and alumnae. Join us! With practices starting at 11 p.m. we can guarantee it won't conflict with anything else on your schedule. We can also guarantee it will be more fun than anything else you've ever done. We are truly in it for the love of the game.

Sandra Schloen Oriental Institute CHICAGO

This invitation is under serious consideration by the editor and extends to local readers who skate backward. Contact the team via their website to express interest.-Ed.

Bannon invitation debate

I am a proud graduate of the University of Chicago. I consider my time there as one of the most important developmental steps in my life. I continue my relationship with the University as the correspondent of my graduating class. It is there where I learned to examine unpopular ideas, conflicting ideas, new and strange ideas, with an unbi-

Subject his ideas to the usual scrutiny we have learned and practiced here at the University for generations. Let him feel the sting of true academic examination.



Puck dreams? The Maroons Women's Hockey team is looking for students, staff, and alumnae to join its ranks, and strongly encourages beginners.

ased bent to understand and learn. I believe in Nat Hentoff's notion that the response to speech we do not like is better speech. I despise Steve Bannon and find him and his ideas disgusting and contrary to all of the values and principles of our democracy.

However, I applaud Chicago Booth professor Luigi Zingales's decision to invite him to speak on campus. Subject his ideas to the usual scrutiny we have learned and practiced here at the University for generations. Let him feel the sting of true academic examination. Those who would bar him from campus seem cowardly and fearful that they do not have the intellectual ability to deal with his ideas. If his economic ideas parallel his social ideas he will be exposed as an irrelevant scholar. If not, who knows, we may even learn something from him.

Robert B. Bloom, SB'58 HIGHLAND PARK, ILLINOIS

I'm incredibly disappointed in UChicago inviting Steve Bannon to come speak.

While I fully respect the University inviting dialogue and opposing viewpoints, even viewpoints as reprehensible as Steve Bannon's neo-Nazi white supremacist views, inviting someone to speak who has demonstrated such basic contempt and opposition to science, scholarship, and evidence-based analysis is the antithesis of everything the University of Chicago purports to stand for. Debate and learning must be based in truth, facts, and Socratic

dialogue. Steve Bannon does none of these in advancing his racist, misogynistic views.

> Derek Brockbank, AB'03 WASHINGTON, DC

I am dismayed by the protests from students, faculty, and other alumni against the invitation to Steve Bannon to speak on campus. I myself am no fan of Bannon or his views, but, as Voltaire said, I adamantly defend his right to express them. I hope that those on campus who disagree with what he says will engage him in civil and rational discourse.

By the way, as a Canadian I want to point out to those on campus who welcomed my prime minister, Justin Trudeau, with open arms and probably at the same time oppose Bannon's presence, that Trudeau during his short tenure as leader of Canada has already been cited by our Ethics Commissioner for breaches, has been called out for lying many times, and has passed legislation mandating forced speech. There are no angels among politicians but we go down a treacherous path when we try to squelch voices in a free and open society.

M. Dov Dublin, AB'69 TORONTO

Fermi memories

My father, Lester R. Dragstedt Sr. (SB 1915, SM 1916, PhD 1920, MD 1921), was chief of surgery at the University of Chicago and a friend of Enrico Fermi ("Clashing Colleagues," Fall/17).

My father figured out that some kind of secret atomic project was being worked on at the U of C. Dad used to eat lunch and play bridge at the Quadrangle Club. While there were fewer and fewer students in the University in the early 1940s, all of a sudden there were lots of brilliant new scientists, "professors," at the club, playing bridge at lunchtime.

Dr. Fermi developed cancer of the stomach for which only palliative surgery could be offered then. Dad operated on him. As Dr. Fermi became increasingly ill, the FBI proposed to my father that they should post a guard outside Dr. Fermi's hospital room door. That was in case that, in his delirium, he should start to reveal national secrets. Dad responded that there was no one at Billings Hospital who had the intellect to comprehend the unconscious ravings of Dr. Fermi. No guard was placed.

I was a teen during the war. My friends and I used to go to the infield of Stagg Field to practice hitting golf balls. We became annoyed when any of our balls happened to land in the west stands, because immediately a guard would come and shout to us to get away from there. We couldn't afford to lose golf balls so we tried not to hit them there, but it was impossible to understand why we couldn't retrieve them.

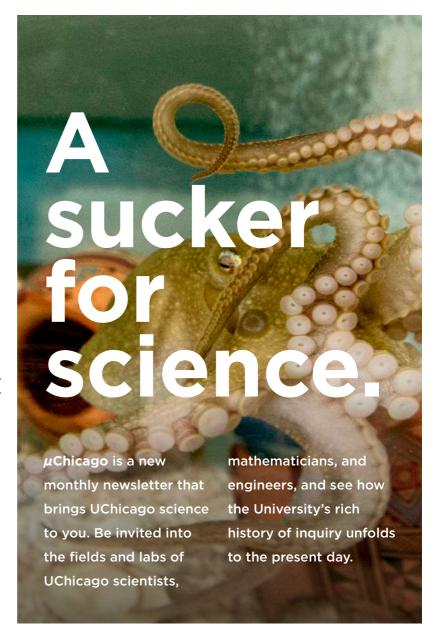
I thought your last issue was excellent. I enjoyed the letters to the editor and the article on Eliot Ness, PhB'25 ("Out of the Shadows," Winter/18). Thank you.

> Lester R. Dragstedt Jr. DES MOINES, IOWA

Bees under siege

A friend recently sent me an article about ancient beekeeping ("Sweet Honey in the Rocks," Fall/15). Now while I didn't graduate from the University of Chicago, my brother did in 1951 and a great and close friend, Paul Wagner, AB'38, a distinguished graduate, recently passed away at 98.

Like the author, I have been a beekeeper for more than 40 years and found the article fascinating. I do have to comment on a small but interesting fact. The author says he has either 11 or 12 colonies. Without saying why he is not precise, the approximate number indicates that he, like all American beekeepers, is being affected by attacks from everything





a small selection of science stories

Don't miss out on discovery in the making. To sign up, go to alumni.uchicago.edu/sci. like colony collapse disorder to varroa mites and tracheal mites.

Bees were not native to America but were brought over by the Europeans. When I started beekeeping it was an interesting and relatively straightforward business. Now the attacks on the honeybee are so extreme that many migratory beekeepers, those with thousands of colonies, only use their bees for pollinating the big almond crops in California or the orange trees in Florida. They don't even bother to extract honey, as the loss of colonies is so high, the economics do not encourage extracting.

Perhaps the most interesting fact in the article is the migratory nature of beekeeping in the ancient era, as Syrian bees were transported to Palestine for their gentleness and productivity. I have told nonbeekeepers for years that the honey found in the tombs of the pharaohs 3,000 years later was potable, as the bees excrete an enzyme that preserves it indefinitely.

> Peter Krulewitch CLOVE VALLEY, NEW YORK

Hutchins College days

I have just (after all these years!) finished reading William H. McNeill's (LAB'34, AB'38, AM'39) Hutchins' University: A Memoir of the University of Chicago, 1929-1950 (University of Chicago Press, 1991), a history of the years when I attended and graduated from the Hutchins college experiment.

It is interesting and perceptive, but I was surprised to note one omission and wonder if the author did not know about it. His account of the early years leaves the impression that no formal degrees were awarded until quite late. However, I know of at least one (me) in 1943, and I think that I was not alone. I was a precocious high school student (not yet quite 14 years old) when I received a four-year scholarship to what was then called the Four Year College, located in a small house very close to the chapel. I commuted from home via the 63rd Street streetcar and vividly remember being in the Reynolds Club when Roosevelt gave the Day of Infamy address. Life and the University were never the same.

In 1943 I and some others would shortly be draft age and were offered a "proposition." The faculty recognized that several of us would be drafted before we could finish our "last year"-but there was an impending vacation quarter. We were taken aside and told that if we were interested they would provide the critical course outlines, reading lists, etc. for our "last year" and we could, without any other assistance, spend our summer reading and cramming—and then take a special comprehensive exam. If we were able to study and read in-

Along the way I modeled for Maude Phelps Hutchins, and her husband would occasionally visit and tease me. "Aren't you cold?!"

dependently and then pass this major qualifying exam, we would get credit and could graduate a year early, and have a degree before being drafted.

I did that. The end result was that I received a PhB in 1943. I don't believe that I was alone but really don't remember. The irony of this was that when I was then called up for the draft, I was instantly rejected (!) as 4-A for being underweight (six feet tall, 120 pounds). So I spent the last year of my four-year scholarship taking courses in physics and math, and then took a job doing thunderstorm research in the basement of the Reynolds Club.

I was always led to believe that the role of the Hutchins/Adler Four Year College was to develop Rennaissance men and women from young "gifted and talented" students, and I like to think that I came to fit that mold. Life has treated me incredibly kindly, in no small sense reflecting that education. Along the way I modeled for Maude Phelps Hutchins, and her husband would occasionally visit and tease me. ("Aren't you cold?!") I assume that he must have known that I was one of "his" students.

If there is a record somewhere of the outcomes of the Four Year College it might be appropriate to note that there was at least one PhB awarded. And it might be worth checking to see if there were not one or two others from that summer quarter.

> George W. Tressel, LAB'42, PhB'43 SILVER SPRING, MARYLAND

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.

BLAST FROM THE PAST

I read with interest, and several Di-gel tablets, the seminal article on delicatessen evaluation by those two leading trencherscholars, Professors Madansky and Shubik (Spring/76). Quarrel though I may with some aspects of the experiment design (the concept of "regulation pickles and mustard" is repugnant), I have no doubt that



the techniques used will form the basis for further study. ... Though the logistics would be somewhat more complicated than an evaluation of Manhattan's East Side delicatessens, please prevail upon these distinguished gourmands to undertake a geographical examination of the pizza, including samples from such diverse locales as New York, Chicago, Des Moines, and the undisputed pizza capital of the United States, Dayton, Ohio. —Gary Gastineau, Short Hills, NJ, Sept/76 BY MADHAV RAJAN, DEAN AND GEORGE PRATT SHULTZ PROFESSOR OF ACCOUNTING, THE UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS

hen I arrived at the University of Chicago Booth School of Business on July I, I was an outsider; I hadn't studied at Chicago or served on the faculty and had last visited the campus 10 years earlier, to give an academic talk. As

we enter the spring quarter, I don't feel new anymore. For the past year I have immersed myself in all things Booth, learning about the school's unique culture and its extraordinary community. I have spent much of my time traveling, connecting with our alumni across the globe and learning about the great impact the Booth MBA has had on their careers and personal lives.

Booth is fortunate to be part of a university with a celebrated history and a culture that emphasizes rigorous inquiry and respect for the individual. Like UChicago, Booth's greatest asset is our world-class faculty, who produce pathbreaking ideas with global impact. We view scientific research and intellectual debate as the backbone of this institution and firmly believe that discipline-based knowledge and thoughtful analysis are the foundation of good business practice and policy, as well as the basis for an effective MBA curriculum.

Booth has traditionally been strong in accounting, economics, and finance. But its core strength is its emphasis on data, evidence, and rigor. In this regard, we have been ahead of the curve, and the world is just catching up to us. Our faculty are prominent in data science and quantitative marketing as well as behavioral science and management. We aspire to use our expertise in analysis and decision mak-



Raian previously spent 16 years on the faculty of the Stanford University Graduate School of Business.

ing to have an impact in the real world, applying our skills to fields as diverse as health care, education, and energy.

Booth faculty collaborate regularly with collegues across UChicago, especially those in the economics department. In addition, Booth enjoys a symbiotic relationship with the University in several key areas.

First, what was once a small entrepreneurship center at Booth has grown into a University-wide engine for revolutionary ideas and transformative new ventures. Over the past two decades, the Polsky Center for Entrepreneurship and Innovation has made a name for itself supporting our nascent entrepreneurs, venture capitalists, and private equity professionals. Now, with the help of further generous gifts from UChicago trustee and Booth alumnus Michael Polsky, MBA'87, the center has greatly expanded its mission and brought the teachings of the business school to the broader University community.

Second, we are in the final phase of constructing a new UChicago center in Hong Kong. When it opens this year, it will serve as a base for Booth's Executive MBA Program in Asia. This center will allow us to engage more fully in a part of the world that is increasingly important to the global economy.

Third, Booth has worked to foster a deeper connection with the College. The Trott Business Program provides introductory courses in business and career support for College students, while the Dougan Scholars Certificate Program enables a select few to gain a deeper understanding of the economic disciplines driving business. We also administer the Chicago Booth Scholars Program, which allows fourth-year students to apply to our Full-Time MBA Program.

We also are delighted to partner with the economics department on the new business economics track of its undergraduate major. This represents the biggest involvement by Booth in the College's curriculum in 60 years. We could not be more excited by the opportunity to (re)connect with the stellar undergraduate population at UChicago!

Ilook forward to even closer collaboration with the University to maximize Booth's impact. This includes scaling our joint degrees and making it possible for faculty from across the University to teach our students. Our new MBA/ MPCS with the computer science department is off to a strong start, and we look forward to working with the Law School to improve the ID/MBA. It is imperative we think of business in combination with other fields and put these together in innovative ways.

I'm excited and proud to serve the preeminent academic school of business at one of the world's great institutions of higher learning. To be entrusted with this deanship is an incredible honor. •

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Scientists think Earth's moon formed from a collision like this one, but there are a lot of unanswered questions.

PLANETARY SCIENCE

Water world

A study of lunar rocks sheds new light on the origins of the Earth and its moon.

The question of when Earth got its water is one scientists puzzle over. Did it happen relatively late, as a result of collisions with meteorites and other objects containing ice? Or was it earlier, as the young planet was still forming?

New research from a team including UChicago cosmochemist Nicolas Dauphas, published in Science Advances, suggests it was the latterthat Earth acquired the majority of its water during the main stage of its growth. As part of their study, the team performed the largest analysis to date of oxygen isotopes in lunar rocks.

Understanding when and how Earth became the blue planet it is today is important because it sheds light on another scientific puzzle—how the moon and Earth came to coexist.

Up until about 10 years ago, scientists thought they had a pretty good theory of the moon's formation. But

then more precise measurements of lunar rocks came along and complicated the existing model.

The most widely accepted theory of the origin of the moon speculates that a giant object about the size of Mars, known as Theia (for the Greek goddess who was the mother of Selene, goddess of the moon), smashed into proto-Earth at just enough velocity that parts of both bodies broke off and formed the moon. Earth, according to this theory, has a little of the moon and the moon has more of Earth, but you'd expect to find significant differences between rocks from each body. Early measurements—many taken by the late UChicago geochemist Robert Clayton-did not have sufficient precision to tell lunar rocks and Earth rocks apart.

But in the last decade, Dauphas says, it became clear this picture wasn't quite right. Elements can come in different forms, called isotopes, and these give scientists clues to a rock's origin. As ways to measure isotopes improved, scientists discovered striking similarities between the moon and Earth. Referred to as the "lunar isotopic crisis," this introduced a problem for the main theory of lunar formation, because it's highly unlikely the isotopes would be exactly the same for two random objects in the solar system.

"This, to my mind, is one of the most compelling questions in modern planetary science," says Dauphas, head of the Origins Laboratory and professor in the Department of Geophysical Sciences and the Enrico Fermi Institute. "Right now it's completely open. It's amazing to still be asking this."

One theory to explain the matching isotopes is a scenario in which proto-Earth was totally vaporized by

one or more giant impacts, and both it and the moon formed out of the cloud. But major uncertainties persist, since scientists have reached different conclusions about how different the oxygen isotopes

between lunar and terrestrial rocks really are.

Seeking to clarify the issue, Dauphas and his fellow researchers mea-



Over the past several years, Dauphas has analyzed the isotopic makeup of meteorites (shown here), Earth rocks, and lunar rocks to understand how the moon and Earth formed.

sured the oxygen isotopes of both lunar and terrestrial rocks with extremely high precision. They found a very small but detectable difference in the isotopes of the two bodies.

And that's where water comes in. If Earth's water was added late as a result of meteorite collisions, as a popular

theory contends, then Dauphas's team would have found a greater isotopic difference between lunar and Earth rocks. because water-bearing meteorites have unusual mixtures of oxygen isotopes.

But the isotopic differences they identified were more subtle, suggesting that only 5 to 30 percent of all the water on Earth arrived on meteorites

after the great impact. That indicates most of Earth's water probably arrived much earlier.

The question of how planets acquire water is interesting for a number of reasons, Dauphas says, including the search for distant exoplanets that might have water—and thus a similar kind of life.

Dauphas notes that the current study only focused on oxygen isotopes. Measuring the isotopes of other elements might reveal bigger differences between the moon and Earth, and complicate the picture. "Oxygen, titanium, tungsten—these are the ones that are still keeping us up at night," he says. He and his colleagues have found an important also but the have found an important clue, but the mysteries of Earth's water and its relationship to the moon aren't solved just vet.—Louise Lerner, AB'09

THIS, TO MY MIND,

IS ONE OF THE MOST

COMPELLING OUESTIONS

SCIENCE. RIGHT NOW IT'S

IN MODERN PLANETARY

COMPLETELY OPEN.

COMPUTATION

Blinded by the cite

A new model reveals forgotten influencers and "sleeping beauties" of science.

For centuries, scientists and scholars have measured the influence of individuals and discoveries through citations, a crude statistic subject to biases, politics, and other distortions. A new paper led by the University of Chicago's Knowledge Lab describes a different way to keep score in science—a more direct measure of how ideas ripple out across scholarship and culture.

The authors' new computational model throws the spotlight onto work that changed the path of science but has remained underappreciated. The approach can be adapted to trace influence in other areas, such as literature or music, the authors say in the paper, published March 12 in Proceedings of the National Academy of Sciences.

"We're measuring how much scientists' and scholars' writings influence discussion of ideas in the future," says James Evans, director of the Knowledge Lab and professor of sociology at UChicago. "Influence is a politicized process; those who get the influence get the credit, and those who get the credit get the capital to do the next big thing. This is the first time we have a tightened ability to identify influence,

and also to diagnose social and strategic influences on citing behavior."

In theory, references in an academic paper enable authors to credit their predecessors, the researchers and work upon which they built their new discovery. But in practice, citations are chosen for many reasons—authors are more likely to cite themselves, powerful colleagues in their field, and researchers at prestigious institutions, and are often biased toward citing more recent or already highly cited articles.

Despite these imperfections, many computational studies of scientific influence have relied on the citation record as a useful proxy. The new study, led by former Knowledge Lab postdoctoral researcher Aaron Gerow, takes a novel, deeper approach, using both the full text of articles and external information such as author identity, affiliation, and journal reputation.

Employing a computational method known as topic modeling—invented by coauthor David Blei of Columbia University—the model tracks "discursive influence," or recurring words and phrases through historical texts that measure how scholars actually talk about a field, instead of just their attributions. To determine a given paper's influence, the method allows researchers to imagine how science would have proceeded without it.

"We can not only find out how topics changed over time but can actually simulate the future without a given document from the past and look at how discourse moving forward was different with and without a given document," says Gerow, now an assistant professor at Goldsmiths, University of London. "Citations are one kind of impact, and WILLIAM RAINEY HARPER'S INDEX

WELCOME BACK, ALUMS

Buttons on offer at this year's Alumni Weekend swag buffet:

66

Longest string of name tag ribbons spotted last year:

10

People tearing up the dance floor at the 2017 GO Party:

532

Average number of audience questions in an *Un*Common Core session:

15

Faces painted at the 2017 Alumni and Friends Family Festival:

47

Years the Interfraternity Sing has been sung (as of 2018):

107



The ideas that shape fields the most aren't always the most widely cited.

discursive influence is a different kind. Neither one is the complete story, but they work together to give a better picture of what's influencing science."

The authors trained the model on JSTOR, a massive database of academic publications, which allowed them to quantify various biases and discern distinct patterns of influence. Scientists who persistently published in a single field were more likely to be "canonized" in a way that compelled others to cite them disproportionate to their papers' discursive contributions. On the other hand, discoveries that crossed disciplinary boundaries tended to have outsized discursive impact but fewer citations, likely because the "owner" of the idea and her allies remain socially and institutionally distant from the citing author.

One interesting subcategory of paper the model detected is known as "sleeping beauties," or papers that went relatively unacknowledged for years or even decades before experiencing a late burst of citations. For example, a 1947 paper on graphene remained obscure and forgotten until there was a resurgence of research interest in the ultrathin carbon material in the 1990s and a Nobel Prize for two University of Manchester researchers in 2010.

"Papers have a news cycle, when lots of people chat about them and cite them, and then they're no longer new news," Evans says. "Our model shows that some papers have much more influence than citations will typically demonstrate, such as these 'sleeping beauties,' which didn't have much influence early but come to be appreciated and important later."

The same model can also be used to measure influence in other areas, the authors said. Text from poems or song lyrics, and even extratextual characteristics such as stanza structure or chord progressions, could feed into the model to find underrecognized influencers and map the spread of new concepts and innovations.

"Though we developed and validated this model on scientific text, now we can use it for anything and everything, especially cases where there are no traces of influence but patterns in the content itself," Evans says. "It's like trending on Twitter, but where everything is Twitter. That is what's most exciting to me."-Rob Mitchum

ORIGINAL SOURCE **BEARING WITNESS**



A sense of witnessing history is at the center of War, Trauma, Memory, a new exhibit at the **Special Collections Research** Center through August 31, featuring works created by individuals who experienced war between the 16th century and today. By making these images public, the artists implicate us as fellow witnesses: What I have seen, now you have seen too.

This sense of shared witnessing is stark in Francisco Goya's print "Yo lo vi" (above), whose caption translates simply to "I saw it." In the foreground a man pulls another man along as a woman similarly pulls a young child, while soldiers advance menacingly from the background. The dragged man and child are shocked by something outside the picture, but we are not shown this, only the witnessing itself.

Other pieces focus on what is unseen, or how trauma is present in its absence. A book on South American desaparecidos political prisoners disappeared by South American military dictatorships in the 20th

century—contains a powerful juxtaposition: on the left, a picture of four smiling young boys sitting on a wooden fence in the Brazilian countryside; on the right, three men reproducing the pose in the same location, leaving a gap for their disappeared cousin.

Another book features a striking black-and-white photograph of four men enjoying coffee and pastries in a well-lit café, while attending studiously to their correspondence. The air of pleasantness is short-lived: a telltale Nazi insignia adorns a helmet on the windowsill, and the entire book turns out to be a celebration of the occupation of Poland. Intended as buoyant propaganda, the image now reminds us how easily the horrific becomes the everyday.

Trauma is both everywhere and nowhere in this exhibit, just as it is for all individuals and communities touched by war. According to curator Sarah Wenzel, "You go through the routines of daily life, and the trauma is behind the scenes."

-Lucas McGranahan

Measuring Medicaid

For informed decisions on health care policy, Katherine Baicker prescribes hard evidence.

If you have health insurance, are you more or less likely than an uninsured person to visit the emergency room? A popular theory: with better access to preventive care, you'd be more likely to visit your primary physician for less serious issues, keeping you out of the emergency room and relieving some of the burden on the health care system.

But that's not how it works in practice, as **Katherine Baicker**, dean and Emmett Dedmon Professor at the University of Chicago Harris School of Public Policy, and her coauthors found in a series of papers drawing on a unique experiment in Oregon and several national data sources.

In fact, several widespread assumptions about ER use were wrong, the studies revealed. Uninsured patients, who are often blamed for emergency department overcrowding, don't actually visit the ER any more than insured patients, Baicker and colleagues showed in a 2017 Health Affairs paper. The insured and uninsured actually use the ER at about the same rates. Patients on Medicaid use it the most, but only by a fairly narrow margin.

Much of Baicker's research has upended conventional wisdom about health policy. For the past decade she and colleagues have examined data from the Oregon Health Insurance Experiment, which started in 2008 as a waiting list for the state's Medicaid program—with names from the list chosen by lottery.

Oregon didn't set out to "generate a policy experiment," Baicker says. "They did this because unfortunately they only had enough funding for a limited number of people. But that had the side effect of generating a perfect randomized controlled trial of Medicaid."

The results were striking: new Medicaid recipients in Oregon accessed more health care across the board. "They went to the doctor more, they used more prescription drugs, they went to the hospital more—and they went to the emergency department more," Baicker says. (Though important, this finding wasn't fundamentally surprising to her as an economist: "You just took something expensive and made it free. Why wouldn't people go more?")

Contrary to expectation, participants' emergency department use actually increased by 40 percent after enrolling in the program, a rate that held steady over time, Baicker found.

Oregon Medicaid participants did see substantial benefits, including lower rates of depression and higher financial stability. Baicker says the program "virtually eliminated" the out-of-pocket burden for catastrophic medical expenditures and slashed the risk of debt or unpaid bills due to medical expenses by more than half.

But despite increased use of health care resources across the board, new Medicaid enrollees saw no measurable improvement in physical health issues such as high blood pressure or diabetes. Medicaid involves trade-offs, Baicker found, just like most other public programs, and its costs and benefits aren't always what the public and policy makers expect.

The complicated nature of health care policy in the United States underscores the need for knowledgeable leadership at the state and national levels. "My goal is to provide evidence that drives a well-informed discussion of the trade-offs involved in each of those policies," says Baicker, who has served on the Congressional Bud-

get Office's Panel of Health Advisers since 2009 and regularly shares her research with policy makers nationwide to inform debates over Medicaid expansion, block grants, and other policy questions around the implementation of the Affordable Care Act (ACA, also called Obamacare).

Research can speak to the costs and benefits of health care policies—revealing important facts to guide the decision-making process, rather than letting conventional wisdom lead discussions astray. So what is Baicker's verdict on Medicaid expansion, in light of her team's findings on emergency department use? That's not her call as a researcher to make, she says.

"It is really important to be disciplined in focusing on what science and scholarship can tell us and what they can't, and drawing a bright line between evidence and advocacy," she says. "As a researcher, it's my job to be a faithful reporter of what the evidence supports.... I think that's the overarching mission of all of the faculty at Harris and around the University: to be the voice of clear analytical reasoning and evidence-based decision making."

Like most programs, Medicaid delivers both costs and benefits. It's up to voters and policy makers to weighthose factors. Should taxes support better health care access, mental health, and financial security for Medicaid participants? What about better education, infrastructure, or tax breaks for citizens who benefit from those investments?

"These are all competing policy priorities," Baicker says, "and no study can tell you which is more important to you."—Ingrid Gonçalves, AB'08



Many popular assumptions about ER use are wrong, Baicker's research shows.



In a new book, LaCroix looks at a historical period in which new Americans tried to navigate complex issues unaddressed in the Constitution.

The long founding momen^{*}

The Constitution is a short read. The rest is history.

"There isn't an optimal distribution of federal versus state power," says constitutional scholar Alison LaCroix, the Robert Newton Reid Professor of Law and associate member of the Department of History. "I mean, there might be an optimal one, but you can't find it in the Constitution."

LaCroix is among those who view constitutional law as an ongoing negotiation between the text and evolving historical circumstances. The meaning of the Constitution, in this view, was not settled with the document's ratification in 1788, nor with any subsequent amendment. The Constitution is a conversation.

LaCroix's new book The Interbellum Constitution: Union, Commerce, and Slavery from the Long Founding Moment to the Civil War (Yale University Press, forthcoming), supported by a fellowship from the National Endowment for the Humanities, will

examine the interbellum-"between the wars"-period from 1812 to 1861. According to La-Croix, these years, written off by many as a lull between the founding and Recon-

struction, were in fact a time of great constitutional meaning making.

The prevailing feeling among judges, politicians, and ordinary people of the generation after the founders was that the concrete of America had not yet set. These early citizens viewed themselves as participating in

an ongoing founding process that extended beyond the Philadelphia Convention. In this spirit, many believed that the Constitution would be relatively easy to build out with further amendments—12 of which had already been ratified by 1804. The country was a work in progress.

The amendment process proved burdensome, however, and the Constitution would not be modified once between 1805 and the 1865 abolition of slavery. All the while, debates raged over the regulation of inter- and intrastate commerce, jurisdiction over contested bodies of water, and states' rights and obligations regarding fugitive slaves-issues on which the Constitution was silent. Even though 19th-century Americans "tended to worship the founders," LaCroix says, "they also felt like they were being left high and dry."

They were, in part, grappling with questions of federalism, or the proper relationship between the states and the central government. This is familiar ground for LaCroix, whose first book, The Ideological Origins of American Federalism (Harvard University Press, 2010), traced American federalism to the colonists' vision of dividing powers between the British imperial government and an internal colonial one. The two governments could coexist, it was thought, each governing different aspects of colonial life.

Although such a system had historical precedent, as in the distributed power centers of the Holy Roman Empire, British politicians and theorists such as William Blackstone strongly rejected the notion that a single polity could be ruled by multiple authorities

> at once. In the end. of course, the colonists created their own federation that excluded the imperial power.

American federalism poses a set of challenges that are

familiar to court watchers today. La-Croix's point, however, is that our understanding of federalism has changed over time. Prior to the Civil War, Americans assumed the legitimacy of what is now termed "cooperative federalism"—federal projects relying on states for execution—as long as Con-

THERE ARE WRONG ANSWERS IN CONSTITUTIONAL LAW AND THERE ARE RIGHT ANSWERS. AND THE RIGHT ANSWERS CHANGE OVER TIME.

gress was acting within its enumerated powers and in the name of the states. In contrast, modern constitutional doctrine tends to view the states and federal government as locked in an adversarial relationship, as in the Supreme Court's 2012 ruling that the Affordable Care Act was unduly coercive in requiring states to expand Medicaid or lose all federal funds for the program.

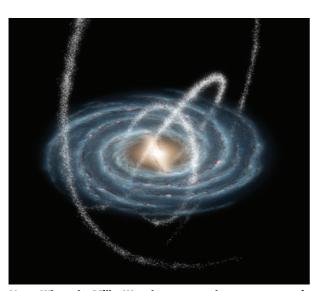
For LaCroix, the value of history lies in understanding such differences. "In other words," she wrote in a 2009 essay, "it is alienness, not sameness, that makes the study of ideas valuable."

In the classroom, for instance, LaCroix emphasizes that doctrine is not set in stone. This includes her experience coteaching the University's first class on law and linguistics with Jason Merchant, the Lorna Puttkammer Straus Professor in the Department of Linguistics and the College, in winter 2014. While the Supreme Court has made a habit of appealing to the authority of 18thcentury dictionaries to fix the meaning of terms, LaCroix and Merchant are now drawing on advances in computational linguistics to detect historical shifts in meaning across vast bodies of text-an effort supported by the Neubauer Collegium for Culture and Society. LaCroix hopes the project will allow linguistics to play

an "enriching, rather than simplifying" role in legal disputes.

The United States Constitution is a short read, as constitutions go. The text outlines a structure of government, but the precise contours of that structure depend upon the exigencies of history and the vagaries of language. This makes the Constitution anything but static, even as the words on parchment remain the same. As LaCroix puts it, paraphrasing her colleague Gerald Rosenberg, associate professor of political science, "there are wrong answers in constitutional law and there are right answers, and the right answers change over time."—Lucas McGranahan

CITATIONS



Nom: When the Milky Way devours nearby star systems, it leaves behind stellar streams, like those shown here.

COSMIC APPETITES

Our home galaxy is a messy eater. Thanks to the halo of dark matter that surrounds the Milky Way, smaller star systems are pulled toward it and eventually gobbled up. This process leaves behind cosmic "crumbs"—leftover stars torn from their galaxies called stellar streams. At the American Astronomical Society meeting in January, scientists from the Dark Energy Survey, an international collaboration that includes members from

UChicago, Argonne, and Fermilab, announced the discovery of 11 new stellar streams. Until now, researchers knew of only about two dozen others. These stellar morsels are tricky to detect, because they're made up of just a few stars and spread out over vast expanses of sky, but are worth hunting for, because they help researchers understand the Milky Way's structure, how it grows, and how it interacts with the dark matter around it.

SHOT IN THE DARK

If you've ever dutifully gotten your flu shot only to come down with the virus months later, you know the vaccine isn't foolproof. According to a study published February 20 in Clinical Infectious Diseases, your immune history with flu may play a role in the vaccine's effectiveness. The research team, led by Sarah Cobey, assistant professor in ecology and evolution, analyzed blood samples of adults infected with flu in 2012-13, when the vaccine was only 39 percent effective-a failure blamed on adaptations in egg-grown vaccines, mutations that can cause the virus to differ from circulating strains and become less effective. Instead, the researchers found, many people didn't have a strong enough immune response to the vaccine, thanks (or no thanks) to a phenomenon called "original antigenic sin." When the immune system encounters a strain of flu that differs only slightly from types it has seen before, it doesn't recognize the virus as novel and produces the same antibodies it made in the past—antibodies that may not do the trick anymore. That's what happened for many people who got the flu vaccine in 2012. According to Cobey and coauthors Emily Landon, assistant professor of medicine, and Vera Tesic, assistant professor in pathology, more research is needed to understand original antigenic sin and ultimately produce better flu vaccines.

MONEY IN THE BANK

What happens when nearly every resident in a state gets a government-funded boost to their income? Despite the influx of cash, they don't leave the workforce, according to a February 12 National Bureau of Economic Research working paper coauthored by **Damon** Jones, associate professor at Harris Public Policy, and Ioana Marinescu of the University of Pennsylvania. They studied the Alaska Permanent Fund Dividend, established in 1982, which provides each state resident of more than a year, regardless of age, with an annual lump sum payment averaging \$2,000. These cash transfers don't affect the state's rate of employment, the researchers found. However, they do increase the share of Alaskans who work part-time jobs by 1.8 percentage points, an uptick that may be the result of new entrants into the labor market. The study offers new evidence of how different aspects of universal basic income proposals might change employment.

-Susie Allen, AB'09

FOR THE RECORD



TRANSITIONS

Amanda Woodward, the William S. Gray Distinguished Service Professor of Psychology, was named dean of the Division of the Social Sciences, effective April 4. Woodward, a scholar of the social development of infants and young children, had been interim dean since July 2017. Executive vice provost David Nirenberg, the Edgar D. Jannotta Distinguished Service Professor of Medieval History and Social Thought. was appointed interim dean of the Divinity School beginning June 1. He succeeds Laurie Zoloth, the Margaret E. Burton Professor in the Divinity School, who will serve as senior advisor to the provost for programs on social ethics.

OBJECT LESSONS

The Smart Museum of Art is creating a new center aimed at engaging UChicago students, artists, and faculty in "object-driven research": interdisciplinary research, learning, and conversations driven by the study and experience of original works of art. The Feitler Center for Academic Inquiry, named for Joan Feitler, AM'55, and Robert Feitler, LAB'45, EX'50, will be led by newly appointed director Issa Lampe and will bring more students to the museum as part of their studies. Lampe comes to the Smart Museum from the Yale University Art Gallery.

HONORING DIVERSITY

At the annual Martin Luther King Jr. Day celebration on January 16, three members of the UChicago community received Diversity Leadership Awards: Randolph N. Stone, clinical professor of law, is the founder of the Criminal Juvenile Justice Project, which defends children and young adults who have been charged with criminal behavior. Stone also works to reform iuvenile and criminal law policies. Sunny Fischer, AM'82, served as executive director of the Sophia Fund, the first private women's foundation solely devoted to women's issues, and, later, of the Richard H. Driehaus Foundation. Fischer also helped start a public housing museum in Chicago. Clinical psychologist Scott Cook works in UChicago Medicine and the Biological Sciences Division to help achieve culturally competent health care and reduce health care disparities across all communities.

SETTING UP HOUSE

The University has announced plans to build a new residential hall and dining commons located between Woodlawn and University Avenues, north of 61st Street. The new Woodlawn Residential Commons will open in the 2020-21 academic year and house approximately 1,200 undergraduate students and resident staff in 11 College houses, along with lounges, study rooms, and outdoor spaces. The firm of Elkus Manfredi Architects is designing the facility.

FOND FAREWELL

UChicago will wind down its activities at Yerkes Observatory in Williams Bay, Wisconsin, over the next six months and formally cease on-site operations by October 1, the University announced March 7. Since the observatory's establishment in 1897, Yerkes has been the site of groundbreaking work by scientists such as George Ellery Hale: Edwin Hubble. SB 1910. PhD 1917; and Subrahmanyan Chandrasekhar. The facility was home to UChicago's Department of Astronomy and Astrophysics until the 1960s. In recent decades the University's research in observational astronomy has shifted to using facilities located around the

world, including the Giant Magellan Telescope in Chile, and in space.

CGIU AT UCHICAGO

The University of Chicago, President Bill Clinton, and Chelsea Clinton will host the Clinton Foundation's 11th annual Clinton Global Initiative University meeting October 19-21. More than a thousand undergraduate and graduate students from across the country and around the world will gather to discuss and develop ideas and proposals to address some of the most pressing social, economic, and environmental challenges facing the next generation.

WEATHERING THE STORM

This spring, students, scholars, and artists affected by Hurricanes Irma and Maria were welcomed to work at the University of Chicago as their home institutions were rebuilding. Under a new initiative launched January 24, select undergraduates, graduate students, and faculty spent spring quarter taking classes and conducting research at UChicago. The University will host visiting Puerto Rican artists from May to July.



SAVVY INVESTORS

The University has invested in two start-ups founded by Chicago Booth alumni through the UChicago Startup Investment Program. Foxtrot, a Chicago food and alcohol delivery service founded by Michael LaVitola, MBA'14 (above), received \$450,000; Ascent Technologies, cofounded by Brian Clark, MBA'17, and Aaron Droba, MBA'16, which helps users build, manage, and

automate their compliance programs, received \$315,000. Through the UChicago Startup Investment Program, launched in 2016, the University coinvests alongside established venture funds in start-ups led by UChicago faculty, students, staff, and alumni. The University has set aside \$25 million from its endowment to invest in startups raising early funding rounds.



JUST WHAT THE DOCTOR ORDERED Ade Ayoola, an Odyssey

Scholar and a fourth-year in the College, was selected as one of 49 inaugural Knight-Hennessy Scholars at Stanford University. Ayoola will receive full funding to pursue a medical degree from the Stanford School of Medicine while participating in the scholarship's global leadership program. A biological chemistry major, Avoola has worked with the Chicago nonprofit BUILD (Broader Urban Involvement and Leadership Development), which works to increase the educational and career outcomes of at-risk youth, and has studied diabetes in Ibadan, Nigeria, as a fellow with the Center for Global Health.

MAKING HISTORY

Lorraine Daston, a visiting professor in UChicago's John U. Nef Committee on Social Thought and the Department of History, has been awarded the Dan David Prize for her achievements in the research of the history of science. The annual award, which includes a \$1 million prize, recognizes scholars for innovative and interdisciplinary research in technological, scientific, social, or cultural fields covering the past, present, and future.

The writing on the wall

In which creatively inclined College students gain a major.

There's always been creative writing at UChicago—just ask alumni who took classes with novelist Richard Stern, or fans of Susan Sontag, AB'51. The subject has long been available to College students as a minor or a concentration within the English major, and plenty write on their own time.

Now it's a formal major as well. Both academic and experimental in orientation and demands, the new creative writing program introduced this year takes the traditional writing workshop as the barest point of departure. So far 78 students have signed on, dwarfing the 30 the faculty anticipated.

Since arriving in 2010, professor and chair John Wilkinson has worked to strengthen the creative writing minor and establish the major. Both are designed to "foster an environment where students would debate the cultural, political, and aesthetic affiliations of their writing and understand its historical antecedents," he told the Chicago Maroon.

Poet and associate professor of English Srikanth "Chicu" Reddy is the program's interim chair while Wilkinson is on leave. In planning the major, he says, the faculty looked at what's worked best at other schools and built their pedagogy from the ground up, unencumbered by convention-for example, the convention of training by workshop.

Writing workshop-style classes are in the curriculum, but they're not the only part or even the most significant. Majors must take classes in literature and in other fields they select with faculty advisers to complement their individual interests as poets, fiction writers, playwrights, essayists, or translators. Also required are two technical seminars devoted to the formal study of literary technique.

These intensive reading and writing courses "try to conceive of questions of technique as broadly and with as much conceptual openness as possible," Reddy says. Students might focus on what constitutes a line in poetry, on uses of first-person point of view in fiction, or on something more esoteric. Poet and collegiate assistant professor Lynn Xu's winter 2018 seminar The Poem that Forgot It Was a Poem, for example, looked at songs, films, and other art often described as "poetic" to examine evolving conceptions of the term and the form.

Novelist Vu Tran, assistant professor of practice, teaches The Love Story, a hybrid literature class/workshop. Students write and hone their own 10- to 25-page original short story in which love—in any form—plays a significant role. Along the way they read contemporary short stories by writers

such as Mary Gaitskill, Junot Diaz, and Russell Banks. Some of the stories are unconventional, and so are their understandings of love. The goal is to broaden students' reading and prompt them to think differently about their writing. "The more uncomfortable they are," Tran says, "the more they might go in an interesting direction in their own work."

The approach seems to be working. Third-year creative writing major Ricky Novaes says his professors "try to push the boundaries of poetry." One of his favorite courses so far is Manifestos, Movements, Modes. Edgar Garcia, Neubauer Family Assistant Professor in English Language and Literature, had students read and analyze literature alongside, for instance, visual art by Cy Twombly and Claymation videos.

Some students anticipate careers in writing or publishing, but many don't. Third-year Adrienne Beck, whose magical realist fiction seeks to expose "the weird and magical elements lying just behind the veneer of the quotidian," wants to go into medicine.

"Writing and art help with being detail oriented and experiencing empathy, both of which are important parts of the medical field," says Beck. If nothing else, she thinks students interested in medicine should take humanities classes "to broaden their horizons and avoid getting burnt out."

Novaes, a double major in political science and creative writing, is pondering law school, public policy work, or what he calls his dream jobhigh school English teacher. Thinking about words from a poet's perspective and stretching the boundaries of language, Novaes believes, make him a better writer in general.

Third-year Angela Ma, a double major in creative writing and economics, knew she wanted to pursue a creative writing minor before she set foot on campus. She declared the major a week after it was announced, delighted to find a "community with a similar faith in fiction" and "a place where I could not only read, but read with other writers."

Tran, the director of undergraduate studies, calls creative writing "one of the few disciplines in academia where all the students really want to be there. Your parents are not pressuring you to take creative writing."—Jeanie Chung



Writing workshops are just one component of the new creative writing major.



As the University's 10th president, Gray helped steer the institution through a precarious era for higher education.

PIONEERS

The long view

Hanna Gray's memoir offers a firstperson view of a career of firsts.

At Harvard during the 1950s, women could enter the university's Faculty Club only by the side door. But a young assistant professor of history named Hanna Holborn Gray didn't always observe that rule. When attending departmental meetings at the club, she took to using the front door.

"Everyone was too much a gentleman to stop me," Gray recalls in her just-released memoir, An Academic Life (Princeton University Press).

Gray, 87, the Harry Pratt Judson Distinguished Service Professor Emeritus of History, would be the first woman to step over many other thresholds once reserved for men in academe. During a more than six-decade career, she was the first woman to hold a succession of teaching and top administrative positions at Harvard, Northwestern, and Yale Universities and UChicago. In 1978 she became the University of Chicago's first woman president, and the first woman to head a major research institution.

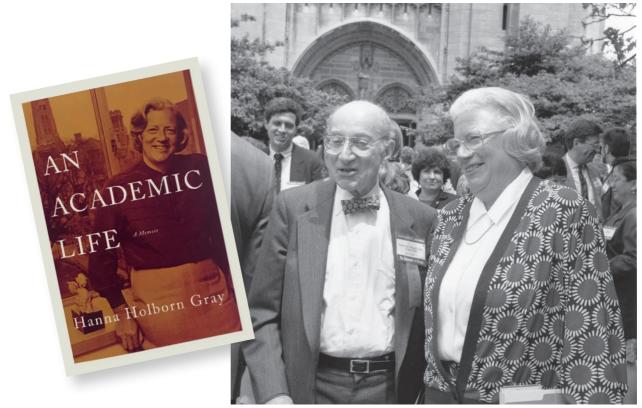
Gray's rise was exceptional; relatively few women of her generation broke into the ranks of tenure-track faculty, let alone assumed leadership roles. But she perceived no distinction in how UChicago faculty and trustees worked with her, she writes-"I was never treated as a different species." Her detailed personal account is focused as much on the evolution of the University and higher education as on her own trailblazing career.

The terrain could be rocky. Gray's first day as president found her in a sweltering office furnished with little more than a desk and a plastic couch. Higher education was in crisis. The boom fueled by the GI Bill following

World War II was over, and the University's enrollment and endowment were both sagging. It seemed a certain golden age had ended-her shabby digs just one sign that resources were tight.

Gray's forthrightness would come in handy as she set about the task of rebuilding the institution's financial health. The shadow of charismatic former president Robert Maynard Hutchins—the Core curriculum, the fierce commitment to intellectual inquiry and academic freedom, even the removal of Big Ten football—still loomed large, and any changes Gray would make would have to be done in dialogue with his legacy.

She respected that legacy but seems to have been undaunted by it as she guided the University through the challenges of the day. She raised tuition, expanded the enrollment of the College, and allocated general funds toward need-based financial aid. On this foundation, Gray instituted a series of administrative measures-a centralized budget office and a pro-



When the University observed its centennial, Gray celebrated alongside her presidential predecessor Edward H. Levi, LAB'28, PhB'32, JD'35.

fessionalized development office, for instance. She undertook a sweeping analysis of the University's academic divisions and graduate life known as the Baker Commission.

The commission's 1982 report, prepared in the face of declining academic job prospects for graduating PhDs

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and the specter of a downturn in college enrollments, called for a rethinking of graduate education at the University. Its recommendations included a reduction of course work require-

ments, the creation of new master's programs, and providing doctoral students with better fellowship support and broader training to equip them for careers both outside and within the academy.

All the while, Gray kept her sights set on what she considered the University's greatest assets—"its powerful sense of mission, its uncompromising intellectual spirit, its insistence

on intellectual freedom, its capacity for interdisciplinary discourse and scholarship, its exceptional students and the breadth and rigor of education they had on offer."

Gray had been prepared for academic leadership seemingly since birth. Her parents were persecuted intellectuals

> who fled Germany during Hitler's rise, settling with their young daughter and son in Connecticut in 1934. Her father, Hajo Holborn, joined the history department at Yale. He and her moth-

er, Annemarie Bettmann Holborn, who was Jewish by heritage, conveyed an "unshakable belief in the worth of intellectual and political freedom," for they had experienced its extreme assault.

Gray's belief in academic freedom was visceral and would sometimes be tested. In her first year in office, a faculty committee invited former defense secretary Robert McNamara-considered by many a symbol

of the evils of the Vietnam War-to campus to speak and receive an award for his work as president of the World Bank. Widespread protest ensued. When Gray refused to disinvite him, even Studs Terkel, PhB'32, JD'34, "appeared on the quadrangle with a megaphone to condemn my behavior."

In her defense of free expression and in many other ways, Gray asserted a commanding presence that unequivocally established the place of women at the helm of major US universities. Yet during her presidency, she continued to encounter spaces that remained offlimits. Elite men's clubs frequently played host to university presidents and other civic leaders for meetings and events, and she found it her fate to "coeducationalize more than one" such place, including the Chicago Club downtown. When confronted, the club held a vote and decided to admit women as visitors. A ladies' room was built. "All this was done," Gray writes, "and I entered the sacred space without incident." And many after her.—Mary Abowd

When a passenger requests a pickup from a ride-share service, the app pings a nearby driver, who can accept or decline the trip. All drivers in a market charge the same rate: in Chicago last year, the base fare for UberX was \$1.70, plus \$.20 per minute and \$.95 per mile. It's a transparent system that seems perfectly designed to eliminate disparities in how much male and female drivers can earn-right?

Not quite, according to research coauthored by John List, the Kenneth C. Griffin Distinguished Service Professor in Economics and the College, and collaborators at Stanford and Uber. In a study of almost 1.9 million Uber drivers from January 2015 to March 2017, the researchers found that men make

an average of 7 percent more per hour than women (above).

The discrepancy is due, in part, to experience. The more you drive for Uber, the more you know when to hit the streets and which trips to accept (airport fares are a reliable moneymaker, for instance).

Women are less likely to learn these tricks because they drive fewer hours overall and have a higher attrition rate than men: after six months, more than 76 percent of women quit driving for Uber, versus 65 percent of men.

But men and women weren't just driving at different times and in different places. They were also driving at different speeds. On average, men drove 2.2 percent faster than women and completed more trips per hour, giving them

more opportunities to make money-a difference that accounts for nearly half the earnings gap between men and women drivers.

The study drives home an important point: the gender wage gap may not always stem from a pay structure that is itself discriminatory. Rather, women face challenges outside the labor market that may prevent them from getting ahead. "Women have more constraints—i.e., take the kid to school in the morning," List explained to the Freakonomics Radio podcast. These constraints can lead them to "receive less experience and less learning-by-doing. ... As policy makers, what we want to do is make sure that we can alleviate those constraints as much as possible."-Susie Allen, AB'09

Heavy metal

You probably don't know musician Joey Brink's name, but you may have heard him perform.

On a Friday afternoon in February, University carillonneur Joey Brink is getting ready to climb 240 of Rockefeller Chapel's 271 stairs. From a small playing cabin near the top of the tower, he'll perform David Bowie's "Life on Mars" on the Laura Spelman Rockefeller Memorial Carillon. It's not the first time he's rocked Bowie on the instrument's 72 bells-Brink commemorated the iconic performer's 2016 death with a recital of his greatest hits.

Brink, 29, brings a youthful edge to an instrument with medieval origins. Since his arrival at the University in 2015, the campus soundscape has included Drake's "Hotline Bling" and Prince's "Purple Rain," alongside more traditional selections. Brink, a past winner of the prestigious International Queen Fabiola Carillon Competition, also offers private lessons to 20 graduate and undergraduate students at the University each year and composes and commissions new works for carillon. In comments edited and condensed below, he tells the Magazine how he fell for the bells.

-Susie Allen, AB'09

How did you get started playing the carillon?

I started piano lessons when I was eight, and in high school I played mallet percussion-xylophone and vibraphone-which is kind of similar to bells. I had no idea what a carillon was until I toured Yale. As we walked by Harkness Tower, the tour guide said, "There's a bunch of bells in the tower, and people play them kind of like a piano." And I thought, "Whoa, I really want to do that."

So my first day on campus as a freshman, I went and found the group and was like, "I want to join!"-maybe a little too enthusiastically. You take lessons for 10 weeks and then you audition. That audition is still about the most stressful thing I've ever done. There's 50 to 80 people that want to join every year and they take five.

After graduating I went to a carillon school in Belgium for a year, where I rigorously, intensely studied carillon. Then I came back to the United States to do something totally different and got a master's in engineering. But while I was in graduate school at the University of Utah I realized I could be a fulltime carillonneur. That was shortly before I came here.

You've chosen to play a lot of nontraditional carillon music. Why is that?

I really enjoy pop music and film music. Some of my favorite things to play on the carillon are Disney songs from Pocahontas, Beauty and the Beast, Mulan.

> Those songs work so well on bellsthe melodies and the harmonies. So that was just

personal taste. And I do really like taking requests from the community. People can submit requests online, and I keep a close eye on those. I also like to play contemporary music written for carillon, as well as



Installed in 1932, the carillon has 72 bells made with 100 tons of bronze.

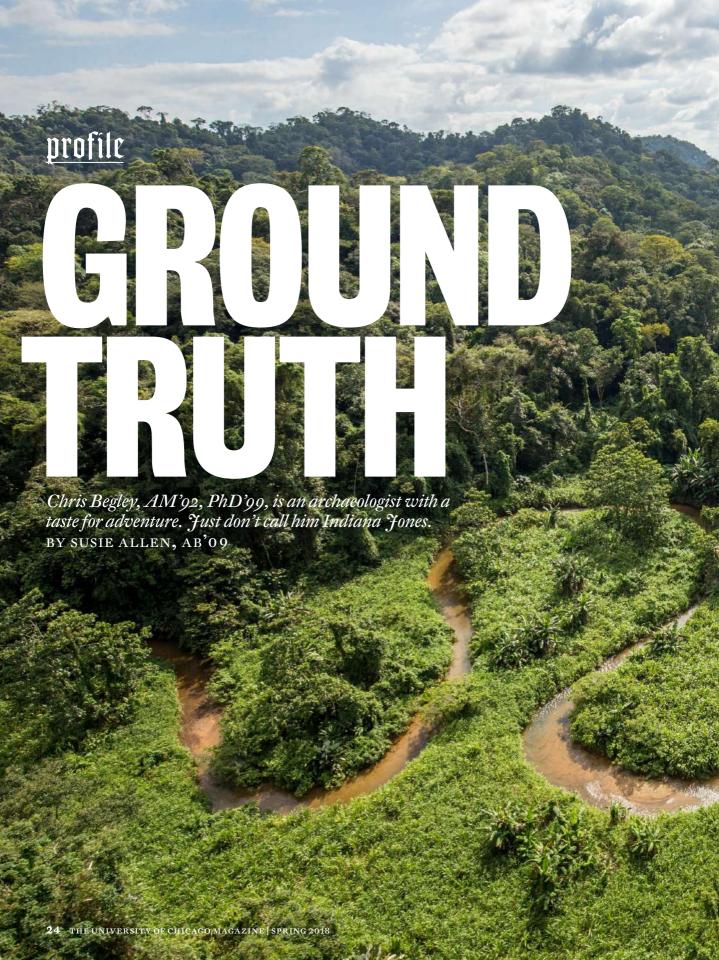
classical music arranged for the carillon. I think playing a variety of music is the most fun for me and also best for the community.

What makes a piece of music work well for carillon?

Anything that has a clear melody that you can sing or whistle will work on the carillon. If the music doesn't have much of a melody, like a rap or R&B song that requires a lot of percussive hits, it's not going to work quite as well-though something like "Hotline Bling" was doable. I can't sustain a note like a singer could, so a slow, dramatic Céline Dion epic is not going to work all that well. Alternatively, if it's too fast and really rhythmic and arpeggiated, that often doesn't work either. Disney songs tend to be right in that sweet spot.

When you're at, say, a cocktail party, what do you tell people who ask what you do for a living?

It really depends on how much I want to talk. Sometimes I'll just say I'm a teacher or a musician. Then people might say "What do you play?" and that opens up a can of worms. But if I'm feeling talkative, I'll say I play in a bell tower and I teach bells. It's the most fun when people don't believe me. They actually think I'm kidding. That's happened a couple of times.





hris Begley and I are on a drive, a little outside Lexington, Kentucky, when he gets an idea. "I want to show you a shipwreck," he says.

Begley doesn't need a map as he navigates his tan Jeep Cherokee toward the banks of the Kentucky River. We pull over and clamber to the water's edge. It's late November and the riverbank is slippery with dead leaves. Thirty feet or so ahead, the promised shipwreck is just visible above the water's surface.

The Brooklyn, a 1903 stern-wheeler, was once a floating restaurant. The vessel met an unhappy end in 1988, when, after a bad drought, its hull was punctured by the river's rocky bottom. Since then the Brooklyn has slid deeper and deeper below the water's surface.

An archaeologist whose recent work focuses on shipwrecks, Begley, AM'92, PhD'99, has his eye on this one. There's been relatively little archaeological investigation of life along Kentucky's water routes, and he'd like to take students and fellow scholars out to study the Brooklyn and other craft submerged in the state's rivers and canals, as well as the remnants of historic water infrastructure, such as water lines and pumping stations. He likes shipwrecks because they help you understand what people valued: What did they buy and sell, and what were they willing to ship over long distances?

But Begley, an associate professor at Transylvania University in Lexington, hasn't as much time to devote to the $fledgling\,Kentucky\,Waterways\,Project\,as\,he'd\,like, in\,part$ because he's been busy doing research on shipwrecks in the Mediterranean and El Salvador.

It's worth pausing here to consider that, in Begley's world, this constitutes an entirely unexceptional explanation: I have not had enough time to devote to domestic shipwrecks, because I have been too busy diving for shipwrecks internationally. Begley's work and the stories it generates are so abundant and so entertaining that talking to him is like meeting the guy from the Dos Equis "Most Interesting Man in the World" commercials. He had a run-in with a famous Honduran bandit! His grandfather was an Appalachian folk hero! He was one of Men's Journal's "50 Most Adventurous Men"! He explored the jungle with Ewan McGregor for a BBC documentary!

When, a couple of days into my visit, Begley mentions offhandedly the underwater search-and-recovery missions he's done, it barely registers. That he searches for murder victims in the deep is not even the most exciting thing he's said that day.

So, yes: Begley does in many ways resemble the swashbuckling Indiana Jones archaeologist archetype, and he knows it. Yet this archetype and the way he so tidily ful-

fills it make Begley nervous too. In fact, when he teaches Intro to Archaeology at Transylvania ("Transy," as it's also called, is named for a short-lived colony established in Kentucky in 1775), he devotes an entire class session to Indiana Jones and whether he's ultimately good or bad for the field.

He admits he loves the movies, archaeological flaws and all, and the interest they've generated in his field. But he fears the stereotype discourages those who don't see themselves reflected in it: people of color, for example.

When journalists write about him, they tend to focus on the most Indy-esque elements of his work, adventure and danger. It's understandable—Begley is best known for his research in eastern Honduras, including the Mosquitia, a roughly 32,000 square mile rainforest region often characterized as forbidding and difficult.

Begley doesn't fundamentally disagree with these descriptions, though he's careful to point out that danger isn't what drew him to archaeology. He went to eastern Honduras because he wanted to know about the people who once made it their home, and he dives for shipwrecks because they tell us how people lived and what mattered to them. To answer those questions requires a certain amount of adventure, but it isn't the point. Nor is discovery, a word that provokes an almost allergic reaction from Begley: everything he's studied and documented, he tells me more than once during my visit, was known about and pointed out to him by the local and indigenous populations who have been indispensable to his work.

"I don't know that I've discovered anything. ... I don't even know which sites I first documented, or some other archaeologist," he says. "It just doesn't matter." He's fond of a phrase credited to the archaeologist David Hurst Thomas: it's not what you find, it's what you find out.

Begley isn't shadowboxing when he expresses frustration about the portrayal of archaeology in the media. For

HE'S SEEN UP CLOSE WHAT HAPPENS WHEN THE POPULAR APPETITE **FOR A GREAT STORY DEVOURS A MORE NUANCED REALITY.**



Begley says he's drawn to archaeology in difficult environments, "because I like those challenges, but also because places with those attributes tend to be less explored, providing an opportunity to fill a need."

several years the area in Honduras where he began his career has been at the center of a dispute about exactly these issues: the sometimes distorting force of publicity on complex scholarly work, the media's love of danger, discoveries, and firsts. He's seen up close what happens when the popular appetite for a great story devours a more nuanced reality—when it gets in the way of the truth.

rom his grandfather Joe, Begley inherited not only a deep connection to his home state of Kentucky but also the idea that you should fight for regular folks against the powerful. (His grandmother Evelyn Gaynell Caudill Begley, EX'39, attended the University of Chicago.)

Joe Begley was among the earliest anti-strip-mining activists in Kentucky. When Joe settled in eastern Kentucky, "immediately he saw people being abused by coal companies," Begley says. His grandfather found ways to get things done: Joe Begley knew everyone, talked to everyone, worked with everyone. "It was that connection that really allowed his effectiveness," he says. Without those relationships, you "just end up screaming from the sidelines."

Joe was also comfortable working outside the system when it suited his purposes: during one particularly cold winter, when county residents couldn't get enough fuel to heat their homes, he convinced the railroad to illegally dump an entire carload of coal by the side of the tracks, which he distributed to locals like an Appalachian Robin Hood.

Begley's father, J.T., continued the family's social justice tradition by working as a poverty lawyer. When former president Jimmy Carter signed the law

authorizing the creation of the Office of Surface Mining Reclamation and Enforcement, both Joe and J. T. were there. Later J. T. became a lawyer for the office.

Begley got his first taste of adventure exploring the hilly outskirts of his grandparents' house in Blackey, Kentucky (present day population: 156). Sometimes he'd find his way into abandoned coal mines, or happen on an old mine car. During those backyard excursions, he felt a visceral connection to the past. When he got dropped off back home in Lexington, dirty and exhilarated, he'd watch Jacques Cousteau on television. That was what he wanted to do, he decided: go places he'd never been, see things he'd never seen.

Begley picked up field techniques as an undergraduate at Transy, with the help of summer field schools and volunteer work with University of Kentucky archaeologists. By the time he enrolled in graduate school in anthropology, he felt well prepared for fieldwork. At UChicago he bulked up on postmodern theory and absorbed everything he could from his professors, including Marshall Sahlins, the Charles F. Grey Distinguished Service Professor Emeritus of Anthropology, with whom he played basketball a few times a week.

In graduate school Begley heard Instituto Hondureño de Antropología e Historia (IHAH), the government agency responsible for archaeology in Honduras, was looking for someone to document prehistoric sites in the eastern part of the country.

He knew relatively little about the area, and his Spanish was rudimentary. His first field season was rough—not so much a baptism by fire as a baptism by constant, unending dampness. But Begley discovered he was well suited to working in challenging conditions. "I don't have any particular skill that makes me any good at this stuff, except that I

I DON'T HAVE ANY PARTICULAR SKILL THAT **MAKES ME ANY GOOD** AT THIS STUFF, EXCEPT THAT I CAN JUST STAND **BEING UNCOMFORTABLE** FOREVER.

can just stand being uncomfortable forever," he says. (Physical fitness helps, but "sometimes you imagine that getting in shape will make something easy. It just makes it possible.")

In its early stages, the research consisted of what Begley's dissertation describes, decorously, as "pedestrian survey" and "pedestrian reconnaissance"—essentially, walking around in the jungle, looking for ruins, and trying not to die.

Getting yourself killed is easier in eastern Honduras than in many places, thanks to its arsenal of poisonous snakes, including the deadly fer-de-lance, and insect-borne tropical diseases. Bad luck and quotidian disasters (sprained ankles, sunken canoes) can also add up.

On rare occasions, people posed as much of a threat as the snakes and bugs. During one of his last field seasons in graduate school, Begley and his local guides, one of whom was just 15, encountered a well-known bandit—the Jesse James of Honduras, "the boogeyman you scare the kids with"-brandishing a gun. The bandit had been hiding in the jungle to evade law enforcement and was less than thrilled to cross paths with an American academic who might reveal his whereabouts. Begley and his companions got away by sneaking off at night. To avoid leaving footprints, they waded through a river.

Begley tells this story over a beer at a nearly deserted bar not far from the wreck of the *Brooklyn*. His shoulders suddenly drawn tight, he says he doesn't know how to reckon with this memory, so he tries mostly not to think about it, how it would have taken days or weeks for anyone to find their bodies. For hours they had no idea whether they'd gotten away or not.

As they walked, Begley found himself imagining the movie version of the escape, where he'd come up with some ingenious plan if the bandits caught up with them. But no scheme announced itself. He was just tired and afraid. "I remember thinking, I could have gone to law school."

hen Begley started his fieldwork, archaeologists had been working in eastern Honduras for about 70 years. There was a lot they still didn't know about the people who had lived there centuries earlier. But they had an essential source of information all around them—the indigenous Pech, the group's likely descendants.

Begley turned to the Pech for help throughout his research. He was part of an early wave of archaeologists paying close attention to the needs and knowledge of local populations, says Rosemary Joyce, an archaeologist at the University of California, Berkeley. "We needed to learn to be collaborative. We needed to learn to talk to the local people, to listen to them," Joyce says. Begley was "consistently already there." Others have written about the Pech, but "Chris is the person who has spent the most time with them, and that definitely comes out in his writing," says Mark Bonta, a geographer at Penn State Altoona.

Without their help, Begley says he would never have found the 125 sites he documented in his dissertation. (He estimates that since completing his dissertation he's documented another 75 and that around 400 sites belonging to this group have been identified in total.)

His Pech collaborators knew where all the sites were, big and small. They also helped Begley interpret what he was seeing. When he found the remains of grinding stones at some of the sites he excavated, he assumed they must have been used to mill corn. The Pech corrected him, saying they used grinding stones for manioc, or cassava, as well.

Completed in 1999, Begley's dissertation offered the most reliable modern data about the archaeology of the Mosquitia, according to Joyce. "He's the one person who's actually done extensive work in this area," she says.

Begley's research helped pin down basic information about the group—what they ate (probably manioc), what language they spoke (most likely something in the Macro-Chibchan family, like the Pech today), when their culture reached its height (1000-1200 AD, give or take). The culture appears to have declined drastically by the 16th century, though some of the larger sites were abandoned even earlier, before the arrival of Spanish explorers.

There's no modern-day name for the group. When Begley was writing his dissertation, he considered coming up with one, just for convenience, but decided it wasn't his place to do so. "If the Pech want to come up with some name for their own ancestors, that's great," he says. "I'll be glad to use that."

For years scholars defined these ancient Mosquitians mostly by what and who they weren't. The architecture and pottery they left behind didn't look quite South American, but it wasn't quite Mayan either—though there were clear signs of trade and cultural exchange with their neighbors

to the north. As occupants of a border region, the people of the Mosquitia had their own distinct identity and material culture, but they adopted some characteristics of the powerful societies around them.

Begley's research revealed one big surprise: the sites he studied contained ball courts—rectangular arenas bordered by two parallel mounds with sloping walls. Ball courts were used to play the Mesoamerican ball game, a sport used for recreation, diplomacy, and ritual. At times it ended with human sacrifice, though some believe this element has been overemphasized. (One scholar I spoke with recalled hearing a guide at a major Mayan ruin tell tourists that the winners of the ball game were always sacrificed. She found this hard to believe: "That would seem to lead to low-scoring games.")

To archaeologists, finding ball courts in the Mosquitia was a big deal. According to the prevailing theories at the time, they simply didn't belong so far east. But there they were. "It really required us to rethink the way that ball courts figured into social life," Joyce says.

Building them was not an arbitrary architectural choice. "It has implications for your belief system, for your cosmology, for everything," Begley says. To him it suggested that the upper crust of the ancient Mosquitia had imported the game from the Maya and used it to prove they were the source of mystical knowledge from faraway lands. "Elites were borrowing certain elite public elements—ball courts, site plans-from their powerful neighbors as a way of gaining and maintaining power," he explains.

The presence of ball courts also shed light on the social relationships between the various cultures that inhabited lower central America. "That says to me that they were very closely related to their neighbors to the west," says John Henderson, an archaeologist at Cornell University. "Once Chris began to make it clear there are some really big sites out there, then the fact they had ball courts in them was really interesting."

WE NEEDED TO LEARN TO BE COLLABORATIVE. **WE NEEDED TO LEARN** TO TALK TO THE LOCAL PEOPLE, TO LISTEN TO THEM.

f you work in Honduras for a little while, you'll start to hear stories about the White City, or Ciudad Blanca—a mysterious place, tucked away in some remote part of the Mosquitia, perhaps full of treasure. Stick around long enough and you'll meet people who claim to have found it. ("Somehow they never seem to have photographs," says Henderson, his eye roll nearly audible through the phone.)

No one knows exactly when or how the present-day White City legend emerged. The myth has some similarities to Pech stories about a place called Kao Kamasa (the White House), filled with gods who fled their villages after Europeans arrived in Honduras. The only people who can enter the "Place of the Ancestors," as the Pech also call it, are those who speak all seven indigenous languages. And since no one does anymore, Kao Kamasa remains inaccessible. Another local indigenous group, the Tawahka, also have a legend about a lost place special to them.

Early Spanish explorers told a story of their own. In 1526 Hernán Cortés wrote to Emperor Charles V about a town "eight or ten days' march from that town of Trujillo. ... So wonderful are the reports about this particular province, that even allowing largely for exaggeration, it will exceed Mexico in riches." Nearly two decades later, a Spanish priest named Friar Pedraza wrote about a wealthy civilization living on the north coast of Honduras.

Somewhere along the way, the indigenous tales of Kao Kamasa got conflated with these Spanish reports, resulting in an El Dorado-like legend, one that has proved irresistible to generations of explorers and treasure hunters. Their hunts for a singular, fixed location belied the shifting, elusive quality of the White City legend. It wasn't clear which version of the story guided these adventurers in their searches—was it the Spanish accounts of cities filled with gold, or one of the many indigenous versions? For the hunters, it seemed not to matter.

The early 20th century saw a succession of American explorers setting out in search of the White City. One of these adventurers, Frederick Mitchell-Hedges, didn't find it but said he'd heard from locals of a place called the Lost City of the Monkey God. Another, R. Stuart Murray, got closer. He reported that a local had brought him several stone artifacts from the Lost City of the Monkey God, but the man was bitten by a fer-de-lance and died before he could reveal the city's location. Next came Theodore Morde, who, after a four-month search, claimed to have seen the lost city with his own eyes. The media went wild. But key excerpts of Morde's journals, rediscovered in 2016, show him to be a fraud: he never found the city, or even got close.

Begley had heard the stories, and like many scholars of Honduras, he didn't put much stock in them. He knew there were lots of large and interesting archaeological sites

in eastern Honduras, but as far as he was concerned, none of them could be the White City, because the very idea of the White City is an assemblage of fact, fiction, and misunderstanding. Even the indigenous versions of the legend, he argues, may not be tied to a single location, or a site of any size: for the Pech and the Tawahka, Kao Kamasa represents an idealized past, a golden age before the arrival of Spanish explorers and other outside threats.

But the probable nonexistence of the White City hasn't stopped people from continuing to look for it. In fact, it was a recent quest for the elusive site that sparked a scholarly debate about archaeology's relationship with the media.

Documentary filmmaker Steve Elkins had long been fascinated by the White City legend and, in 2012, decided to take a high-tech approach to the hunt using lidar, or light detection and ranging. It was a long shot; even some involved in Elkins's mission suspected it wouldn't work, given the density of the rainforest in eastern Honduras.

But the technology did its job. When Elkins's team, accompanied by journalist Douglas Preston, flew a lidarequipped plane over a 55-square-mile region of the jungle, the imaging system penetrated the canopy of trees and revealed, among other things, what they believed to be a major archaeological site.

Initially Begley was thrilled by the news. The Under the Lidar (UTL) group, as Elkins's team came to be called, had found important remains of the culture he'd been studying for years. "With lidar, you can find archeological sites that you could never before," Begley told Preston in a New Yorker article published in 2013. "There is incredibly valuable information in those images." He offered to help the team interpret the lidar results, but no one took him up on it.

Meanwhile the press got the bit between its teeth and ran. The UTL team announced in a press release that they had located "what appears to be evidence of archaeological ruins in an area long rumored to contain the legendary lost city of Ciudad Blanca." The wording was cautious—and largely ignored. A typical headline was this, from the Daily Mail: "Scientists 'discover' legendary lost White City of gold in dense Central American jungle thanks to advanced laser mapping."

Three years later, Douglas Preston, who had continued to follow the UTL team's work, wrote an article in National Geographic that described the lidar-located site as the "never before explored" remnants of a "vanished culture." (In the same article, the team was more careful to reject association with the White City appellation. "Archaeologists ... no longer believe in the existence of a single 'lost city,' or Ciudad Blanca, as described in the legend," Preston wrote.) Another wave of sensationalized media coverage followed.

To Begley and other archaeologists specializing in Hon-

duras, the tenor of the media coverage and the UTL team's willingness to cooperate with it violated fundamental principles of their field. Begley cowrote an open letter outlining his objections. Twenty-six scholars including Joyce, of UC Berkeley, signed it. They were troubled by the language of discovery used to describe the newly located site, and by the characterization of the culture that inhabited it as unknown and vanished—how vanished could it be, given that the culture's likely descendants, the Pech, were still living in the area?

Henderson, of Cornell, didn't sign the open letter Begley cowrote—"I was kind of irritated at the politically correct quality of the objection," he says—but shared some of the same frustrations. He took particular issue with articles in which the find was "pitched as astonishing and entirely new."

In fact, "there had been a whole lot of work out there, much of it done by Chris," Henderson says. He believes the archaeologists studying the site should have intervened more forcefully to point out how much was already known about the ancient residents of the Mosquitia. "They were happy to let the publicity machine generate a lost civilization," he says.

Throughout 2015 Begley and others traded barbs with the archaeologists involved with the UTL team. Preston, who'd covered the team's work in the New Yorker and National Geographic, went on to write a book about it, The Lost City of the Monkey God: A True Story (Grand Central Publishing, 2017). In the book Preston alleged Begley didn't have the proper authorization for his field work in the Mosquitia after 1996. Begley denies the charge. (Dario Euraque, a professor at Trinity College in Connecticut who was the director of IHAH from 2003 to 2006, told me he does not find the accusation against Begley credible.)

It was, all in all, a bruising controversy. Begley remains angry about the attacks on his reputation but has tried not to dwell on them. He had stopped doing fieldwork in the Mosquitia years before, mostly out of fatigue. "Every field season felt like some special forces training or something. Here's a 70-pound pack, carry that for a month. ... I was ready for something else," he says. He was more concerned about the Hondurans who were critical of the UTL

EVERY FIELD SEASON FELT LIKE SOME SPECIAL FORCES TRAINING.



In recent years Begley has been focused on underwater archaeology. With the help of local fishermen, he and colleagues documented 45 shipwrecks off the coast of Greece.

research. The mission had the support of the Honduran government, so speaking out carried greater risk for them.

Meanwhile, the UTL team continues to report from what they now call the City of the Jaguar. Some of their findings echo Begley's previous research about the early residents of the Mosquitia—among other noteworthy elements of the site, the team in 2016 reported the presence of "two parallel mounds that may be the remains of a Mesoamerican ballcourt."

egley still goes back to Honduras occasionally, but his research is now focused on underwater archaeology, which, not unlike the rainforests of Honduras, comes with logistical challenges. Depending on how deep you dive, "you may be able to work for 15 minutes at a time a couple of times a day," Begley explains. At depths of 100 feet or more, cognitive impairment—divers call it the "rapture of the deep"—kicks in. "It's like being drunk," he says.

His work on shipwrecks has taken him to Central America and the Mediterranean. In all of these places, just as in the Mosquitia, getting to know the local population was essential. In Greece, a project he was involved in managed to find, over a pair of two-week field seasons, some 45 shipwrecks, "a quarter of all shipwrecks ever recorded in Greece," Begley says. Everyone wanted to know how they'd done it. "Folks would ask, what technology are you using?" The answer was fishermen.

Local fishermen had a wealth of knowledge from years spent on the water, and once the team gained their trust, they were eager to share what they knew. For instance, where nets got caught on something deep below the water, and stories they'd heard of what might be down there.

Of the 45 shipwrecks the group documented, 37 had been shown to them by locals. There was no magic technology, just people.

That's not to say Begley isn't interested in gee-whiz gadgetry and the ways it can help archaeology. For the past decade he's been working on developing and testing a portable 3-D imaging system that can be used in remote and hostile environments, including underwater. Begley has proposed that the light, portable system could be used on everything from historic cemeteries to ancient foot impressions to maritime archaeology. He's tested the system in Honduras, Spain, Albania, Montenegro, Croatia, and closer to home in Missouri and the Kentucky River.

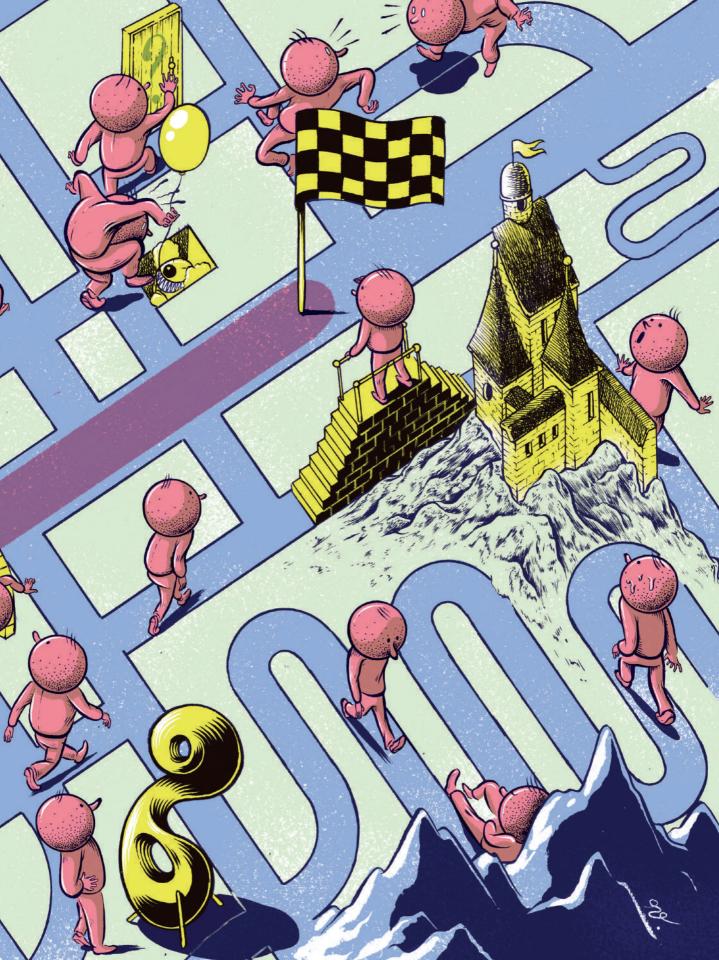
More and more, he's drawn to projects in his home state. He wants his students to know that there is important archaeological work to be done, even in their own backyard.

"I love Kentucky," he tells me on a rambling drive through horse country outside Lexington. He points out little things: historic buildings, bluegrass, the way the properties are lined by a particular type of stone wall. Later we walk across a natural stone bridge in Daniel Boone National Forest, and he tells me about the rock formations. He describes the scenery as we pass-sycamores, oaks, Virginia pine. His roots here are deep.

Though teaching at a small liberal arts school can feel limiting for someone so attracted to research and fieldwork, he also likes working with kids from Kentucky, who make up the majority of Transy's student population. He wants them to hear a professor who sounds like them.

After a day of teaching Begley goes home to his family in the same Lexington neighborhood where he grew up and first imagined a life of travel and adventure. He's glad that his children know where he comes from. He is an archaeologist, after all. He wants them to know their history. •





FROM THE BOOK:

THE EFFICIENCY PARADOX by Edward Tenner

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> he master rhetoricians of ancient Greece and Rome taught what has ever since been called the method of loci, or places. The orator or student imagines a house with a number of rooms, or in some variants a walled city. Some systems even use the human hand. Each room would be furnished with objects representing the ideas or facts to be remembered or narrated.

The idea of the memory palace has gone in and out of fashion and is now a favorite technique of the revived sport of memory competition. Memorizers are usually advised to choose a familiar building, but the technique also seems to work with virtual ones. A pure textual outline is a less efficient way of memorizing facts than a set of connected images.

If our minds grasp knowledge in such a spatial way, what does the electronic efficiency of GPS—ever improving, ever more depended on—imply for our ability to navigate our world? A growing number of researchers—geographers, neuroscientists, psychologists, anthropologists, and others—have misgivings about the effects of electronic aids on spatial literacy.

There is no disputing the benefits of geographic efficiency. With the US Defense Department's release of accurate military Global Positioning System (GPS) location services to the public, following authorization by President Bill Clinton in May 2000, and the rise of smartphones a few years thereafter, the sense of location of a large part of humanity has changed radically.

Today it is easy to pinpoint our locations by coordinates within a few meters and to construct itineraries for travel from virtually any location on a continent to any other. Visitors to a city can see annotated maps of their real-time surroundings with restaurants, museums, and other attractions, and upload their own photos. Motorists 50 years ago might visit an auto club office and get a set of strip maps customized with their route and notices of construction and other delays; today such routings are available instantly. Travelers can even preview actual buildings photographed by roving camera cars. Travel appears to be reaching a level of efficiency few imagined even in the 1990s.

But what does efficient travel really mean, and what may we be losing as well as gaining in the GPS era?

The limits of all representations of geographic reality bring us to the complementary skill of wayfinding, which might be called way-losing. Waylosing is productive and instructive disorientation, distraction, wild-goose chases, dead ends. Google Maps and Google Street View can still be used for exploration, but the Google mission statement, "organize the world's information and make it universally accessible and useful," says nothing about randomness or curiosity or the value of occasionally disorganized information. As writer Ari Schulman has noted, the conditioning of our expectations by representations did not begin with electronic maps or online image sharing. Even in the heyday of print, it was a challenge to visit sites like the Grand Canyon without having the experience diminished by the familiarity of guidebooks.

There is nothing like the "lost art of getting lost," as an often-repeated phrase puts it. Part of the enjoyment of the old-style road trip, as celebrated in books and films, was encountering people and sights that were not described on any map or in any guide. The goal of Silicon Valley seems to be the creation of a personalized, dynamic, ultimate guidebook to the world. Even its definition of serendipity is another description for accessing useful existing knowledge.

Consider the scenario envisioned in 2010 by Eric Schmidt, the CEO of Google, who imagines walking down the streets of a foreign city and having information searched automatically: "'Did you know? Did you know? ... This occurred here. This occurred there.' Because it knows who I

WAYLOSING IS PRODUCTIVE AND INSTRUCTIVE DISORIENTATION, **DISTRACTION, WILD-GOOSE CHASES, DEAD ENDS.**

am. It knows what I care about. It knows roughly where I am." And he continues that "autonomous search—this ability to tell me things I didn't know but am probably very interested in is the next great stage ... of search."

That autonomous search can now be implemented by socalled augmented reality, the overlaying of images, video,

GPS, and other information in real time on images of places as displayed by cameras on the screens of smartphones and other devices. Some applications, like the Pokémon Go game, a virtual treasure hunt for Pokémon characters, may help people get productively lost if they are not too singleminded about it. On the other hand, in their quest for the characters, players often seem riveted on the screen rather than the surroundings through which the game takes them.

Old-style waylosing was different. You could misread a map or take a wrong turn; or a bridge on a carefully planned routing might be unexpectedly closed without good detour signs. Today there is almost a getting-lost industry. The art

is a subject of a book by the writer Rebecca Solnit, of a conference by the New America Foundation, and of frequent articles and blog posts. Most people seem to be able to recall a productive incident.

Yet being lost is not so easy. As Solnit observes, today's urban and suburban hikers and campers no longer have the same familiarity with nature and wilderness skills as 19thcentury people who had grown up in the countryside. Getting productively lost on road trips and in cities also needs preparation—not in the sense of finding one's way back but in being able to notice unexpected features and to meet people unaccustomed to travelers. There is a special thrill in seeing something not famous in guidebooks.

If travel means ticking off a bucket list of sights efficiently, getting lost can be only a distraction. But many of the most memorable sights are those unfamiliar from the books. When I was an exchange student in Heidelberg in the late 1960s, I saw the castle and other landmarks and lived in a converted patrician house in the center of town across from the historic university center. But what I remember most vividly was a side trip to have a pair of shoes

repaired. It was a visit to another century, down a back alley and up a flight of stairs, where I met a small, bent, elderly man who removed the heels and saw that to save money on rubber the manufacturer had filled them with wooden inserts. I was mildly humiliated when the cobbler cackled "Ami, Ami," using the Germans' semi-insulting

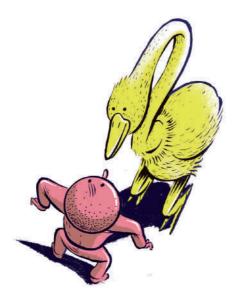
word for Americans, the equivalent of "Kraut"—perhaps a foretaste of the approaching decline of US shoe manufacturing. Yet in writing my dissertation on 19th-century German history, I discovered that the shoe repairer and his little shop and the balcony in a centuries-old courtyard made the artisans I was studying much more vivid.

Waylosing is thus efficient in its inefficiency, just as conventional travel has become inefficiently efficient. There are now not only conventional guidebooks but audiotours and smartphone guides in almost all major museums. Yet the experience-like the first encounter with often-reproduced monuments like the Grand Canyon—can be anticlimactic because of saturated exposure.

For centuries seeing an original work in a foreign museum was a privilege of affluent travelers who had probably seen at best a black-andwhite engraving; now mass airline

travel fills the great collections. The paradox is that because of crowds equipped with smartphones and digital cameras, and because of the demands of conservation and security, it can be hard to appreciate a work at close range. On the other hand, color art photography and reproduction have improved immensely; a growing number of museum collections are available freely as high-definition images online. These images are often made with lighting apparatus that would damage the objects with regular use but that is allowed for a single session. Museum website viewers can also enlarge details of objects beyond the capability of a normal magnifying glass. And as one art museum director observed to me as we toured an exhibition, younger visitors are seeing the objects only through the devices they are using to record them—even though none of these images will approach the quality achieved by the museum's professional photographers.

The inefficient wanderer, on the other hand, will be using his or her time more efficiently by discovering what is less documented, or even undocumented. Those will often be the memories that persist longest. Schulman quotes



the geographer Yi-Fu Tuan's comment that when we at last encounter the canonical sites, "the data of the senses are pushed under in favor of what one is taught to see."

Self-driving cars also would make it especially difficult to get lost. A human driver can take a turn on a hunch, can slow down in time to visit an unusual sight. It is not clear how well autonomous vehicles will be able to react to spontaneous directions. Will a traveler be able to say, "pull over at the antiques shop with the red sign"? And autonomous vehicles will not have the local knowledge of taxi and limousine drivers whose personalities and interactions are wonderfully unpredictable.

The Silicon Valley philosophy fails because private life cannot be run as a business, and even businesses can benefit from unbusinesslike accidents. The algorithmic approach to life can be helpful because the future is often like the past, yet reality has not lost its power to surprise us in ways that enhanced reality can never anticipate.

Global Positioning Systems need not be a threat to real efficiency. The next generation, which will combine signals from land stations with those of satellites to achieve accuracy of inches rather than yards, will make devices more useful

than ever. For users of maps and atlases, it is much more efficient to know coordinates instantly than to have to thumb through indexes. GPS might be abused by some hikers and climbers, but it is still a godsend for others.

One problem of Silicon Valley, as of some of its critics, is a binary outlook that appears to require a choice between old and new. This is understandable on both sides. The industry, with its high failure rate, needs a vision of change that will sweep away the old. Some opponents of technocracy, conversely, are reluctant to concede any real net benefit. A pragmatic view is to see information technology as a series of complementary layers and adding to our capabilities. The United States military, which took the lead in developing satellite navigation during the Cold War, is also

recognizing it. The US Naval Academy, which discontinued teaching celestial navigation in 1998 after a curriculum review, restored it to the course of study in 2010. While even the present GPS is more accurate than traditional methods by orders of magnitude—sextant readings can err by a mile and a half—the risk of disrupted GPS, including defensive disabling of the system in case of enemy

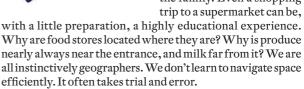
A REVIVAL OF INTEREST IN SPATIAL LITERACY, FROM THE EARLIEST **SCHOOL YEARS** THROUGH GRADUATE STUDIES, IS LONG OVERDUE.

attack, is too great to abandon a backup capability, navy senior officers have concluded.

Our challenge is to combine preindustrial way finding, classical printed maps, and the newest navigational technology to realize the best of each mode. The science of geography,

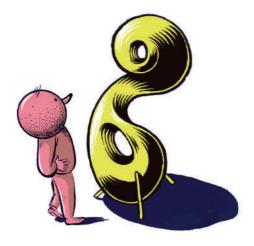
> which has studied these technological transitions, is a potentially ideal guide, but it has long faced challenges in the United States.

> A revival of interest in spatial literacy, from the earliest school years through graduate studies, is long overdue. And it does not have to wait for a national commission, multimillion-dollar planning grants, curricular guidelines, and the rest of the apparatus of educational change. Teaching can certainly help in spatial awareness, but the skills of wayfinding and waylosing are within everybody's reach. It begins with the family. Even a shopping



It is an encouraging sign that more parents are choosing to raise their children in cities. Observing the city, learning





about its layout, the zones of its economic activities, its transportation, can be a visual education itself. But suburbs-especially older ones-have stories of their own to be discovered.

An ordinary automobile or bus ride can be packed with information. The automotive industry has promoted backseat entertainment systems to keep children occupied, and there is nothing necessarily wrong with them, but children (and adults) should experience their world more and tunnel through it less. There is an in-car gaming system called Mileys with location-sensitive features. It isn't hard to imagine that GPS-equipped software could be used to help children learn more about what they are seeing on a trip, and to involve parents.

There is also much to be said for lower-speed transportation. As a visitor to France, I have admired the TGV railroad lines that now travel at up to 320 km/200 miles per hour. Given airport congestion and security delays, they are often effectively faster than flying. But they change the experience of travel. When I first took a TGV, I noticed two things.

First, to sustain the extra-high speeds, the lines had been cut through the countryside as directly as possible, avoiding the natural contours and roads usually paralleled by conventional railroads of the 19th and 20th centuries. This is a long-standing trend. In the Princeton, New Jersey, area, the main line between New York and Philadelphia originally followed the sometimes meandering route of its predecessor, the Delaware and Raritan Canal. During the Civil War, the present direct right-of-way was laid out to the east. A new human landscape of factories and cities grew up around it (John Stilgoe has described the landscape in his book Metropolitan Corridor: Railroads and the American Scene [Yale University Press, 1985]), and enough remains to record that history.

The TGV, with far fewer stops and even straighter layout than 19th-century express lines, loses in sightseeing

CHILDREN (AND ADULTS) SHOULD EXPERIENCE THEIR WORLD MORE **AND TUNNEL THROUGH** IT LESS.

efficiency what it gains in destination efficiency. The first-time traveler, trying to focus out the window at the usual distance, sees only a blur; the view has to be extended outward at least a mile or so to prevent dizziness, so contact with surroundings is partially lost. In

fact, when high-speed lines are built over new and more direct rights-of-way, they are likely to blight the beauty zones that travelers most want to see. This has not always been the case. The rescued Settle-Carlisle railroad line linking England and Scotland, built at prodigious expense in funds and human life for main line service in the Victorian era, was still indirect enough to enhance rather than harm the landscape of the Yorkshire Dales, but the planned H2 high-speed train is now feared as a threat to another natural wonder, the Chiltern Hills.

In considering travel and the natural and human landscape, we see the ambiguity of the idea of efficiency. One kind is measured by the directness and speed of a trip, so that the ultimate goal may be to eliminate any sense of a journey at all. Airlines flying above the clouds, interstate highways, and high-speed railways all began to break our connections with the landscapes through which we move. The supposed utopia of watching videos in a self-navigating vehicle is the outcome of a process at least a half century old.

As we have seen, though, there is more to efficiency than directness. Systems vulnerable to natural hazards or malicious attack with no human backup can hardly be considered efficient in the long run. Technology that leaves no place for human skills, that even reflects suspicion of them, is paradoxically dependent on the prowess of fallible programmers. Technology that isolates us from the environment does not let us use our travel time to our greatest advantage.

There is still reason to be optimistic about travel. Location-based mobile computing can help us avoid its frustrations. It can be pro-serendipitous, help us search for information about our surroundings (as opposed to receiving it passively), and help us share our discoveries. GPS can be skill enhancing, not deskilling, but only if we retain our ability to navigate the old-fashioned, inefficient way without it. Technology, if used rightly, can exercise our built-in GPS rather than allow it to atrophy. •

Edward Tenner, AM'67, PhD'72, is a distinguished scholar of the Smithsonian's Lemelson Center for the Study of Invention and Innovation and a visiting scholar in the Rutgers University Department of History. His essays and reviews have appeared in the New York Times, the Washington Post, the Wall Street Journal, the Atlantic, and the Wilson Quarterly, and on Forbes.com.

legacy

SHADES OF MEANING

Twenty-nine years after his death, the work of Faber Birren, EX'23, still colors the world around us. BY CHRISTOPHER GOOD, CLASS OF 2019

> am convinced when I say that color has been a neglectedart," Faber Birren, EX'23, declared in 1934.

No one could make the same claim today, eight decades on. Certain slivers of ROYGBIV-like Tiffany blue or T-Mobile magenta—have been copyrighted under federal law, while others have inspired scientific inquiry and even public policy interventions. Take Baker-Miller pink, a shade some believe has a soothing effect (the experimental evidence for this claim is mixed). Endorsers include supermodel Kendall Jenner, who painted her living room in the bubblegum-like hue, and prison officials in Switzerland, where every fifth prison or police station has at least one pink cell.

How color came to a place of such cultural and commercial prominence is a big question, but it has some answers in the life and writings of Birren, an unconventional consultant and theorist who proclaimed that he was concerned with color "not as individual feeling and expression but as mass psychology and mass reaction." Over a nearly 60-year career, Birren went from a self-taught enthusiast to "the most authoritative source" on color according to the New York Times.

Birren didn't just demystify his subject: he "put color to work," as he described it, in 20th-century America, from the machinery of heavy industry to the linoleum of suburban kitchens. Alongside these commercial efforts, he wrote probing reflections on more speculative, less understood aspects of color—its power to heal us and to change how we feel.

After emigrating from Luxembourg, Birren's grandfather Henry Birren settled in Chicago in 1848 and became an undertaker. Faber wrote in a 1928 family history that it was "out of pure love for beauty, in spite of his heritage of frugality" that he drove "the finest hearse that graced the city's streets."

Joseph Birren-Henry's youngest son, and the only one not to become an undertaker-started as a professional painter in 1885, when he was recruited to work on a 360-degree picture, or cyclorama, of the Battle of Gettysburg. ("He was the only painter on the staff who could achieve the task of making a dead soldier look dead," Faber wrote.) Joseph traveled the world, drew illustrations for newspapers, and earned acclaim for a 1924 solo exhibition at the Art Institute of Chicago.

That Faber is an anagram of the German Farbe, for color, seems to be a coincidence—Faber shared his given name with his grandmother Catherine's maiden name. Still, it fit. As a child, he drew on walls and painted murals; as a teen, he experimented with dyes.

After a brief stint at the Art Institute, Birren arrived at the University of Chicago in the fall of 1919 with plans to study education. He discovered he didn't miss making art but couldn't shake his interest in studying color-and such a program didn't exist at the University of Chicago, or any other academic institution. In the spring of 1921, Birren dropped out, committed to educate himself about color, and became a regular at the Chicago Public Library.

Birren's early studies were, in a word, eccentric. At one point he resolved to test an old scrap of folklore—that being surrounded by red walls could make a person go madby coating his entire bedroom with vermillion paint. In a week's time, the only change he could gather was that he felt cozy and cheerful.

In 1935 Birren left Chicago for New York City, where he began to evangelize about color design to skeptical industrialists. He promised a Chicago wholesale meat company he could boost their sales—the white walls of the company's coolers, he believed, lent the meat an unappealing gray tinge. Birren studied porterhouse steaks under various lights before determining a blue-green backdrop would make the beef look redder. Sales went up, and before long the company's top competitor changed its color scheme too.

COLOR ... IS MORE LIKE RELIGION. IT IS IN THE



"The story of color is almost the story of civilization itself," Birren wrote in 1963.

It wasn't until color was found to have an impact on bottom lines that Birren gained a real audience with corporate America. In 1945's Selling with Color (McGraw-Hill), Birren related stories from his own clients (painting office walls a darker tone than machinery reduced irritability and inattentiveness among workers, he found); best practices (in hospitals, operating rooms should be blue-green, while private patient rooms should be decorated in warm, light tones); and, for good measure, a smattering of interesting stories he'd heard (Purdue University, he learned, developed red nail polish for agricultural laborers to compare against the ripeness of tomatoes).

Soon Birren's services were in demand in a wide range of industries. When a pool table manufacturer asked him to boost sales, he suggested that they do away with seedy pool shark connotations by changing the baize from green to purple. Sales picked up. Then, in 1939, Walt Disney invited Birren to work as a color consultant. He ended up advising Disney animators on the design of Bambi, Fantasia, and Pinocchio.

His business prospects weathered World War II. At a time when other artists were recruited to disguise US troops and tanks, Birren brought bright colors to wartime industry. As inexperienced workers replaced deployed sol-

diers in dangerous factories, he worked with the DuPont Company to codify the use of bright colors to mark workplace hazards—yellow for stumbling hazards; red for fire protection; orange for equipment that might "cut, crush, burn, or shock"; blue for caution; green for first aid. The system was also adopted by the US Army. For Birren this was truly color at work: intended not merely to decorate, but to catch the eye "with serious meaning."

In 1947 American Magazine compared the lanky, analytical Birren to Sherlock Holmes, and in the postwar era he continued to fit the part. In 1954 Condé Nast hired him as a consultant to *House and Garden*, where he used computers to analyze paint sales and forecast seasonal trends.

In the factory or the supermarket, Birren was a businessman. On the page, in books such as Color and Human Response: Aspects of Light and Color Bearing on the Reactions of Living Things and the Welfare of Human Beings (Van Nostrand Reinhold, 1978), he styled himself as a student of color in the tradition of poet Johann Wolfgang von Goethe, who wrote a book (Farbenlehre, 1810) on color theory, and French chemist Michel-Eugène Chevreul, an early theorist of color interaction.

Birren, who died in 1988, steered clear of what he dubbed "hyperbole and outright charlatanry" on the subject of color; in writing about its therapeutic uses, he cited the scientific research of his day. For instance, he devotes several pages in Color Psychology and Color Therapy: A Factual Study of the Influence of Color on Human Life (McGraw-Hill, 1950) to the psychoanalyst Felix Deutsch, who observed alterations in his patients' blood pressures when he put them in different colored rooms. Describing how artists and designers should use color, Birren used language borrowed from medicine: they "may now ... write prescriptions which have a basis in fact rather than fancy."

Still, his approach to his life's work was never just scientific. "Color ... is more like religion," Birren wrote in 1945. "It is in the blood, an essential part of the psychic make-up of an individual." For all Birren's insistence on the need for the clinical study and use of color, his writings couldn't help but betray a sense of awe at its power. •



- Peach Cafeteria walls, to improve appetite
 - **■** Orange Safety color code for hazards that may cause severe injury
 - Salmon Bathroom walls, for a sense of well-being
 - Red Safety color code for fire-safety equipment
 - **■** Maroon Birren's favorite color
 - Pink To make golf balls easier to spot on green grass

FABER DEAS

■ Purple
The baize of
a billiard table

■ Wedgewoo<mark>d Blue</mark>

The color of Birren's dining room

■ Blue

Egg cartons for white eggs

■ Blue

Safety color code for equipment needing repair

■ Blue-Green

Operating room walls (also the best color for selling steaks)

■ Green

Safety color code for first-aid equipment

■ Light Green

Textile mill walls, to reduce fatigue

■ Black

To make objects seem heavier





life stories

BY SUSIE ALLEN, AB'09
PHOTOGRAPHY BY NATHAN KEAY

baby books grew in popularity through the Once reserved primarily for wealthy families, 20th century. Some, like Our Baby's First Seven Years, were intended as both keepsakes and instruction manuals for parents. The information-and style-of the books changed with the times. The midcentury flair of this edition from 1958 was replaced by a new look in the 1980 edition (below). Where Locks of hair BEFORE Age Cut by whom OD PROPERTOR Date Caprovovado CHILD'S PIRST VISIT TO DENTIST SHOULD BE BETWEEN ACES 244. Corrections Treatments (if any) OCCURALITIE LATER THAN AT THE ACES GIVEN 3/2 YEARS FOR PAINLESS INTRODUCTION TO DENTAL TREATMENT Spaggoo Ouppado 16 TO 25 HONTHS COCOCOCOCO 0000

firstwords, are captured on the era of FaceTiming with Grandma, there was Our Baby's First Seven It's still in production today, nearly a cenrest of a child's life," says Gail McClain, a stones, from first steps to smartphones and shared n minutes. But before Years, a baby book created by Mothers' Aid of Chicago Lying-In Hospital and currently produced by the Chicago Lying-In Hospital board of directors. Part keepsake volume and part medical advice, Our Baby's First Seven Years continues to give parents a lasting way to track the growth and development of their newborn, year by year. tury after it was first published. The book "provides a record you can refer to for the board member who worked on the eighth oday, many infant milewith friends and family edition, released in 2013.

The idea for Our Baby's First Seven Tears was birthed by Joseph Bolivar DeLee, the reformist founder of the Chicago Lying-In Hospital and a pioneer in the field of obstetrics. When DeLee began his career at Northwestern's medical school in 1888, he grew appalled by whathe deemed "unclean" and "ignorant" birthing practices. Maternal mortality in the United States was alarming-ly high at the time—one woman died for every 154 live births. Many of these lives were claimed by so-called childbed fever, a common and devastating postpartum infection.

DeLee advocated for a variety of prac-

DeLee advocated for a variety of practices he believed would protect the safety of mothers and infants. He emphasized a clean environment and the use of sterile sheets, gloves, mouth cloths, and gowns, even for natural deliveries, and, when necessary, the use of forceps.



Of particular concern to DeLee were mothers living in poverty. He hoped to create a facility specifically designed to help these women give birth safely and free of charge. In 1895 he opened the Chicago Lying-In Hospital and Dispensary at the corner of Maxwell Street and Newberry Avenue, near Hull House. The hospital also offered training to doctors, medical students, and nurses eager to learn about DeLee's ideas.

In 1927, with the Chicago Lying-In Hospital thriving, DeLee partnered with the University of Chicago, which agreed to fund the construction of a new hospital building in Hyde Park that opened in 1931. Seven years later, the Chicago Lying-In Hospital officially merged with the University of Chicago Clinics.

As labor and delivery grew safer in the early 20th century, baby books grew in popularity. Wealthy families in particular bought the keepsake volumes to store photographs of the newborn and to record lists of gifts and congratulations received. DeLee believed they could serve a more serious purpose.

A baby book, he wrote in the foreword to the first edition of *Our Baby's First Seven Tears*, "should have all the delicate and lovely sentiments attaching to the birth and beginnings of life of the new individual, but it should have more than this. It should be a record showing the gradual

A baby book should have all the delicate and lovely sentiments attaching to the birth and beginnings of life of the new individual, but it should have more than this.

physical and spiritual development of the body and soul. ... A study of 1000 baby books such as this, if filled out carefully, will give valuable information in every department of medicine." Then, as now, proceeds from the book went toward research and patient care.

Each edition of Our Baby's First Seven Tears has changed to reflect new knowledge about child development—and with the times. Gone are outdated descriptions of temperament (a child might be phlegmatic, sanguine, choleric, or melancholic, according to the first edition) and warnings to correct habits such as finger sucking and nose rubbing. A section once titled "Mother's Notes" became "Parents' Notes" in the 1980s.

While inventories of physical and behavioral milestones are a constant, not everything stood the test of time. Several early editions included a page, "Questions Pertaining to Sex" (parents were to record "Question asked," "Age," "Answer," and "By Whom"), that disappeared by the 1970s.

To prepare the 2013 edition, McClain says, she and other board members "went to the experts"—pediatricians, dentists, dietitians, teachers at the Laboratory Schools. They removed information on how much a child should weigh at particular ages, for instance, because faculty members advised them that earlier editions

Each edition of *Our Baby's First Seven Years* has changed to reflect new knowledge about child development—and with the times.





copies through hospital gift and now online, is familiar shops around the country The book, which has sold more than eight million to many families. didn't reflect enough variation in normal and healthy weight.

of revising the book, "it was incredible," The book, which has sold more than eight million copies through hospital gift shops around the country and now online, is familiar to many families. In the course McClain recalls. "So many people said, 'I Pat Brend's family has copies of Our Baby's First Seven Years for four generations. She remembers her mother filling out her book and even storing her report cards in its pages ("some years that was a good memory," she says).

tion with her two sons. She she says: "I was very thorough." And she noticed some changes. Her book had a question about favorite radio programs; her sons' Brend carried on the tradifilled out each book completely, asked about TV shows.

ingly document favorite foods, names of four have their own copies too. Just as her grandchildren have copies of Our Brend recently bought a copy for her fifth great-grandchild—the other she and her parents and children did, Baby's First Seven Years in which to lovfriends, and lost teeth, page by page, gen-

glimpses

PAST AND PRESENT

BY LAURA DEMANSKI, AM'94

usan Kidwell, the William Rainey Harper Professor of Geophysical Sciences, has taught at the University since 1985. Generations of students have learned from her in the Core curriculum course Environmental History of the Earth and on field trips to California, the Bahamas, and other geologically notable destinations. Trained as a field geologist, Kidwell has branched out in the past two decades

to conservation paleobiology, an emerging discipline that uses the fossil record to understand environmental change. The work applies basic science to reveal what ecosystems looked like before human activity and other stressors took their toll. It brings her into partnership with ecologists, biologists, public agencies, and others to identify ways to restore environments' natural states.

In a conversation with the Magazine that has been edited and condensed, Kidwell discussed how this work has also made her a part-time cultural historian, how field work trains young geoscientists to look, and what art and science share in common.

What is conservation paleobiology?

I would say it is using fossil records to give a longer time perspective on issues of conserving biodiversity and restoring habitats. It's a relatively young field in that we're just getting formalized, but people have been using fossils to give insights on endangered species for decades.

This work has become increasingly focused on using very young fossil records, just from the last few centuries to the last few thousands of years. So it's a bridge. We're working on species that are still living today. Mostly we're looking to see changes in population sizes, in the geographic ranges of species that are still living today, but that we fear are waning or in peril of some sort.

How long has this been your focus?

I first got really involved around 2000. I was invited to join a research group evaluating the role of fishing, particularly overfishing, in the apparent collapse of coastal ecosystems.

It was a real introduction to ecology. I realized that I couldn't continue to maintain this dual life of doing field geology work on old records, and also all this work on modern environments and modern processes, and that I should flip to working exclusively on these modern issues, where I could maybe help save the world. It is a very rewarding kind of work.

This sounds like something that would interest students.

Yes. Geology is fun anyway because, I always say, earth sciences is a great field to go into when you can't decide what kind of science you want to do. It includes everythingphysics, chemistry, biology.

Conservation paleobiology is the next level because you're interacting with cultural stressors and cultural history and taking the same very integrated, holistic approach. You consider the whole range of human activities that might have been affecting an ecosystem, as well as natural variables, and try to figure out what actually happened and what drove it.

The main thing I'm after is the sort of Holy Grail of conservation biology itself, and that is to figure out what systems were like originally, so that we can figure out what should be the targets for restoration. Which areas have changed, how have they changed, and what was natural really like? And then what, if anything, can we do to bring it back? At that point, you begin to hand it over to other scientists.

Tell us about the lost ecosystem you discovered off California last year.

It's one of my all-time favorite projects. It's such a picture of how science discoveries happen. My former postdoc Adam Tomašových and I were trying to establish how many years were represented by assemblages of dead shells in the seabed. We were using a method that dates individual shells to establish decades and centuries represented by the accumulations.

THE MAIN THING **OF CONSERVATION**



"Old field areas are like old friends," says Kidwell, who returns to many of hers on field trips with her geological sciences students. Below, scallop shells from muddy sediment collected on the western Palos Verdes shelf off the coast of Southern California.

THAT'S WHEN I REALIZED, "OH, MY GOSH, COULD IT BE COWS?" IT SEEMED SO LUDICROUS.

We had been focusing on various kinds of clams, but Adam realized that there were a lot of shells of a different kind of bottom-dwelling organism called a brachiopod, which also filter feeds but attaches permanently to the seabed. They settle as little larvae. If you have any sediment accumulation, they are toast.

Adam suggested we should date the dead brachiopod shells and establish how old they are. There are very few studies of brachiopods, but they're important in the deep time fossil record. We thought this assemblage would date from the initial post-Ice Age rise in sea level, say 18,000 to as recently as 5,000 years ago.

What we found was that not only had these brachiopods been out there for all these thousands of years but they had persisted in abundance all the way up, basically, to the present—as recently as a couple hundred years ago. So what happened to them? Why aren't they out there now? In 50plus years of intense sampling by local biologists, they had not encountered any of these organisms alive. So that was wildly exciting, and we just stumbled on it.

What did happen to them?

We knew something about cultural history. It couldn't be climate change, it couldn't be waste water, it couldn't be urbanization—these were all in the 20th century, but the brachiopods were disappearing in the 19th century. That's when I realized, "Oh, my gosh, could it be cows?" It seemed so ludicrous.

And yet, it was cows?

In geologic literature, you sometimes run across a sentence saying the rate of sediment runoff from Los Angeles and Orange County watersheds must have been much higher during the mission era because of all the cows. But were there really enough cows to have done that? No one gave hard numbers. So I realized we were going to have to learn something about range ecology and sediment runoff, and first we needed a total number of cows to figure out how much sediment they could have caused to run off. Could it have been the right magnitude to do what had been done to the brachiopod communities? They're buried in mud, and they do not tolerate mud. We figured "mudification" was implicated.

I imagined that the impact of cows is that they overgraze—they remove the vegetation and it's not there to hold rain water, so the water runs off, carrying sediment. But when I tried this out on a biologist, he said no, the cows trample the ground and they compact it. Then when rain comes down, it can't infiltrate, so an even larger proportion of the rainfall runs off the surface. Qualitatively the story fit, but it was quite a job to gather the data, model it, and determine that megatons of dirt per year were stripped.

The answer, published last year—we're writing up the detailed version now—is that LA experienced a hundred years of soil loss, starting within a few decades of Spanish colonization, as livestock populations exploded toward 100,000. That unmanaged rangeland became 100 percent cropland by 1900. But once you no longer had pristine prairie with normal levels of animals grazing on it, you had muddy, sediment-laden water going into the sea. That was a real experience, becoming a little bit of a historian.

What are the larger consequences of the brachiopods dying off?

It wasn't just the brachiopods. There were scallops, colonial animals called bryozoans, and other animals that couldn't handle mud. It was a mosaic of shelly and sandy habitats with just small mud patches. So we had the extinction of an entire ecosystem that no one even suspected had been there.

We now have a legacy of widespread mud that is the new normal, and not something that can be removed. The 20th century brought new stressors like warming and waste water. Waste water has been turned back, and the ecosystem is recovering from that very nicely. But Adam and I know that it hasn't recovered completely, because we know what the mud community looked like before.

We're thus proposing that a fully natural ecosystem is not recoverable here. We should realize that with a sense of loss and a sense of accountability. But moving forward, what we can do is to get the best possible ecological services and aim to recover to the early state of those mudecosystems. Our young fossil records tell us what these mud communities will look like when their part of the original ecosystem has recovered. People don't think about fossils being used for such present-day issues.

You just returned from your latest field trip with geological sciences students. Where did you go?

I took 10 students to the Salton Trough in California, a tectonic basin that's at the northern end of the Gulf of California. The Gulf is a very young ocean, with both seafloor

PEOPLE DON'T THINK **ABOUT FOSSILS** BEING USED FOR SUCH PRESENT-DAY ISSUES.

spreading and San Andreas slip faulting, and has an exceptionally thick and well-exposed stack of rocks dating from the last six million years. It's a fabulous range of paleo environments for students to ponder.

In the field you can help students develop a zoom lens approach to rocks and to the world. Geologists are always zooming in and out. We're looking at landscape scale, we're looking at hand specimen scale, we're pulling out the microscope, and we're doing the same thing temporally. We're thinking now, in the past, in the super-deep past, and we do it automatically.

The nature of the world is different at different scales. No matter where you take someone in the field, it's no longer a theoretical issue. They start exercising their eyes and their brain in this different way.

To the extent that you have free time, how do you spend it?

What I'm most serious about is gardening. When I'm not doing it, I'm reading about it and visiting botanic gardens and arboretums.

I also love to go "arting." There are very close ties between field geology and art. As geologists we're looking at 3-D reality but need to express it in 2-D. Sometimes you can do that with a graph and do it mathematically. But a lot of our evidence is relational. We need to turn it into diagrams, which are abstractions. Another way of understanding what you're looking at is to draw it.

I'll never forget a big Monet exhibition I saw in London. It wasn't until I saw that there were, like, 100 haystacks that I realized his work was so analytic of the interactions of light and other slight changes.

And of course science is like that. It's a process of systematic discovery. It's so much more creative than people realize, and scientists are more driven by passion than people realize. You can't have the persistence it takes without the passion. I love seeing these other passions. People are going to make art whether they're paid or not, whether they become famous or not.

This intellectual journey that true artists are on—you know, we all share it. •



The meditative judge

BY EDWARD SPILLANE, JD'92

n the meditation and yoga classes I've taken for the past several years, I've learned that mindfulness-an acute awareness of what is happening in the present moment—can improve my life. In yoga mindfulness allows one to unite the body and the mind in the present through a variety of physical poses. But as a municipal court judge in College Station, Texas, I have also seen it work wonders in my courtroom. In retrospect, I was using mindfulness long before I recognized what it was.

I met my first "client" while in law school. At the University of Chicago Law School's Mandel Legal Aid Clinic in the early 1990s, we were helping citizens avoid losing their housing due to evictions that violated federal civil rights law. I do not remember her name. But I can remember as clearly as if it were yesterday the experience of seeing the law I had studied in class come to life in the basement legal aid clinic.

I can still remember the dress and sweater she wore for the interview at the clinic and her children, who accompanied her. She told me her story, her struggles, her work history, and we eventually were able to save her housing by sending a letter to the landlord explaining the situation and the lawsuit we might file should she be evicted.

It wasn't until many years later that I understood why I still have a clear image of meeting this woman. Even though our discussions were brief and her name is lost to me, I was completely and utterly mindful of that person at that time. Her situation and her struggles were more important in the moment than any other thoughts, concerns, or appointments I had at the time. My focus was on her.

Today I have been a judge in College Station for a little over 15 years. Before that I was a felony prosecutor. In the past five years, just as I began to cultivate mindfulness through meditation and yoga, I have been focused on misdemeanors, an area in need of reform. Too many misdemeanor defendants in jail are there not because they are a risk to the public or refuse to come back to court, but because of their economic circumstances. They either cannot make the bail assessed against them or cannot pay the fines, fees, and other charges that stack up in many cases.

Working on reform takes a global view and requires insights beyond an individual defendant; however, I have learned that individuals tell the story better than statistics. Mindfully focusing on the person in the courtroom allows a judge to gain insights that can then go beyond that one person.

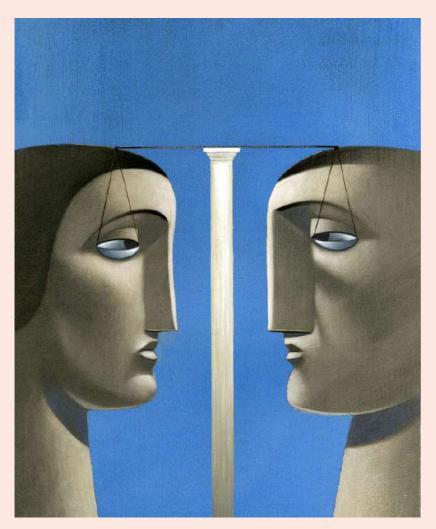
Too many misdemeanor defendants in jail are there not because they are a risk to the public or refuse to come back to court. but because of their economic circumstances.

Misdemeanors include disorderly conduct, public intoxication, traffic offenses, theft, and driving with an invalid driver's license. The last offense is particularly omnipresent as more states suspend people's licenses for unpaid fees and fines, feeding a cycle that prevents many defendants from closing their cases. Without a license they can't drive to work, and without working they can't pay down what they owe. With court costs, fees, driver's license suspension surcharges, and failure to appear charges, a \$200 case can easily become \$2,000. And that might as well be \$2 million to an indigent defendant.

Richard G. was such a defendant. A year ago he received two violations: speeding and no insurance. I first saw Richard in the jail when he was arrested for failing to appear. When I see defendants in the jail, I always let them out without making them post a bond. I have found if they have a chance to talk to a judge who listens to them and explains the options (including pleading not guilty), they tend to show up to court and cooperate.

I asked Richard, "Why didn't you come to court?" He told me that he was saving money for the fines and court costs but also that he was afraid of being arrested there. I let him know that our standard practice is never to arrest defendants in our courthouse even if they have active arrest warrants for not appearing or unpaid fines.

Richard was a hard worker. He held two jobs yet was having trouble making ends meet with a child whose



special needs incurred hefty medical bills. He could not afford insurance and was on his way to losing his driver's license. The \$200 traffic ticket would in many courts be the beginning of an impossible financial burden. The bottom line was that Richard could not hold his two jobs without driving a car. As a judge, I needed to be mindful of Richard's individual case.

Itold Richard that as long as he came to court he would never be arrested. Even if he could not follow my order, we would listen to and work with him as long as he kept in contact. Richard assured me that he would get insurance. He paid what he could of the speeding fine and performed community service on a Saturday morning. After one month of his cooperating with the court and after he showed proof of insurance, I waived the rest

of the fines and fees Richard owed. Cooperation is a two-way street, and I made sure he had a chance to be a law abiding citizen, one who knows now not to be afraid of courts or judges.

Richard G. is one man with one case in one court in Texas. But, like the lady in the Mandel Clinic, one person can represent so much more. How can we put mindfulness in practice throughout the justice system with the positive results I've seen in one courtroom? Improvements in the law itself will go a long way quickly, along with training and persuading stakeholders across the criminal justice system.

In Texas, far from a liberal state and with a legislature perhaps more conservative than its citizens, laws granting judges the ability to waive fines, court costs, and fees in cases where alternative punishments are

an undue burden have given us a way to release defendants from impossible financial obstacles. We also have incorporated a long list of alternative sentencing options that work: teen court, where teens make decisions about how much community service their peers should perform; drug rehabilitation programs; high school degree training; first offender, victim impact, or community living classes; and mentoring or tutoring.

In my experience these programs, when properly funded and run, are more effective than jail or fines for most misdemeanors and nonviolent felonies. Our judicial council and chief justice of the Texas Supreme Court Nathan Hecht, working with our state legislature, even managed to get a safe harbor law passed in 2017: now no defendants can be arrested if they come to court, even if they have active warrants outstanding for failing to appear or unpaid fines. What I once discussed with Richard G. is now Texas law.

Most judges' chief desire is for defendants to avoid future visits to any courtroom, and alternative punishments that rely less on fines and bail have produced positive results.

A mindful focus on individual defendants in the courtroom can allow judges to contribute to largescale reform. Applying punishments mechanically actually creates criminal justice failures. A focus on the present allows a judge to gain more insight into each defendant and serve the best interests of everyone in his or her court. What I experienced as a law student at the Mandel Legal Clinic now makes sense to me so many years later. Mindfulness works. •

Judge Edward Spillane, JD'92, is a member of the National Task Force on Fines, Fees, and Bail Practices and of the Misdemeanor Criminal Justice Project of John Jay College of Criminal Justice.

NOTES

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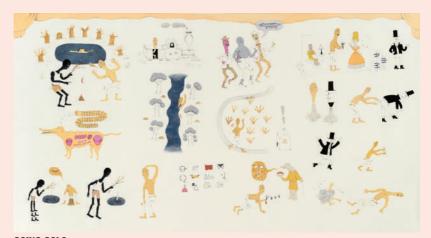
In 1956 Timuel Black, AM'54, brought Martin Luther King Jr. to campus for what would be his first major speech in Chicago. In 1963 Black organized the Freedom Trains that took Chicagoans to the March on Washington, where they heard King deliver his "I Have a Dream" speech. And this February, the South Side community where Black grew up celebrated him as a local icon of the US civil rights tradition. At a Black History Month ceremony at the Walter H. Dyett High School for the Arts in Washington Park, Black was presented with the school's inaugural Honorary Eagle Award "for his continuous fight for Civil Rights, and his commitment to preserving Bronzeville's rich history and legacy." Black's two-volume or al history of the Great Migration to Chicago is called Bridges of Memory (Northwestern University Press, 2003 and 2007).

WORLD CINEMA WINNER

At this year's Sundance Film Festival, Time Share (2018), cowritten and produced by Julio Chavezmontes, AB'05, won the Special Jury Award for screenwriting in the category World Cinema Dramatic. Chavezmontes established his reputation as a leading Mexican filmmaker in 2012 with the horror film Halley, nominated for several Ariel Awards, Mexico's equivalent of the Oscars. *Time Share* tells the story of two fathers who become convinced an American timeshare conglomerate is plotting against their families. The film is currently being marketed for US and international release.

HONORING A CAMPUS PIONEER

At a ceremony held in March, the University of North Alabama (UNA) honored Wendell W. Gunn, MBA'71, by officially renaming its commons building the Wendell W. Gunn University Commons. Gunn was the first black student ever to enroll at UNA, then called Florence State College, where he earned a bachelor's degree in chemistry and



GOING SOLO

From March 2 to April 28 the Zg Gallery in Chicago held the first solo exhibition of visual artist Clare Rosean, MFA'12. Middle West: New Paintings and Works on Paper featured paintings and drawings that Rosean says "illustrate the personal and shared anxieties of a lifelong Midwesterner," including the mixed media work Hobo Code (above). Newcity listed Rosean's exhibition as one of its top five art shows in Chicago in March, calling her work "playful and eerie." Rosean credits her dreamlike visual style to comic art and medieval Sienese painting.

mathematics in 1965. After making history as the student who integrated UNA, Gunn pursued a career in politics and business. He was an international trade adviser to President Ronald Reagan and later founded Gunn Solutions, a technology company that provides consulting services to institutional investment managers.

VETERAN PUBLIC SERVANT

John E. Whitley, AM'98, PhD'00, was nominated to be assistant secretary of the Army by President Donald J. Trump on February 2. Whitley, an Army veteran with experience in the Department of Homeland Security and the Office of the Secretary of Defense, was a faculty member at George Washington University's Trachtenberg School of Public Policy and Public Administration before becoming a senior fellow at the Institute for Defense Analyses in Virginia.

NEW COMMISSIONER

D. Ethan Kimbrel, AB'92, was appointed by Governor Bruce Rauner to the Illinois Commerce Commission on January 19. Kimbrel, who studied law at George Washington University, previously served as a legislative analyst for the Office of the Illinois Senate

President and was a judicial law clerk for the Illinois Appellate Court in Chicago. He has worked on the Illinois Commerce Commission since 2007, becoming its chief administrative law judge in April 2015. He was the first African American to hold that position in the commission's history.

MAJOK'S NEXT ACT

The 2018 Pulitzer Prize for Drama was awarded in April to Martyna Majok, AB'07, for her play Cost of Living, about two relationships involving a person with a disability. In January Majok also became the first woman to receive the Greenfield Prize, awarded jointly by the Philadelphia-based Greenfield Foundation and the Hermitage Artist Retreat in Englewood, Florida. The prize includes a \$30,000 commission for a new work and additional support for its writing and production. Majok plans to write a musical about friends who struggle with life as refugees after growing up near the Chernobyl nuclear disaster area. Her most recent play, queens, about two generations of immigrant women living in Queens, premiered in March at the Claire Tow Theater at Lincoln Center.

—Andrew Peart, AM'16

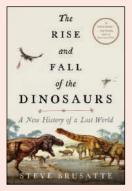
RELEASES

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.

FUTURE HISTORY: GLOBAL FANTASIES IN SEVENTEENTH-CENTURY AMERICAN AND **BRITISH WRITINGS**

By Kristina Bross, AM'90, PhD'97; Oxford University Press, 2017

In the interregnum England planned what became often violent ventures to conquer, colonize, or take possession of lands in the Americas and East Indies. Kristina Bross, associate professor of English at Purdue University, examines how a range of mid-17th-century texts, from astrological almanacs and pamphlets of millenarian prophecy to missionary tracts and colonialist propaganda, helped lay groundwork for the British Empire by other means: envisioning a world of global interconnection.



THE RISE AND FALL OF THE DINOSAURS: A **NEW HISTORY OF A LOST WORLD**

By Steve Brusatte, SB'06; William Morrow, 2018

The T. Rex, Triceratops, and Brachiosaurus that Hollywood turned into screen legends represent only a few characters in a cast of hundreds of known dinosaurs. Steve Brusatte, a reader in vertebrate paleontology at the University of Edinburgh, tells the fuller story here. His narrative history of the dinosaurs traverses more than 200 million years from origins to extinction. Intertwined are Brusatte's firsthand accounts of excavations across the globe and discoveries he has helped add to the record.

SONGS FOR SCHIZOID SIBLINGS

By Lionel Ziprin; introduction, notes, and bibliography by Philip Smith, AB'89; The Song Cave, 2017 When he died in 2009, poet and Jewish mystic Lionel Ziprin left behind a trove of mostly unpublished work in his home on Manhattan's Lower East Side, where he played host for decades to artists and writers attracted to the esoteric side of New York City's cultural underground. Prepared from the original typescript by editor, curator, and bookseller Philip Smith, Songs for Schizoid Siblings is the first book by Ziprin to emerge posthumously from the author's archive, and only the second of his books ever published. A linked series of nearly 300 poems mixing Kabbala, nursery rhymes, nonsense poetry, and Beat experimentalism, this avant-garde text shows its roots in Jewish tradition.

AMERICA'S POLITICAL INVENTORS: THE LOST ART OF LEGISLATION

By George W. Liebmann, JD'63; I. B. Tauris, 2018

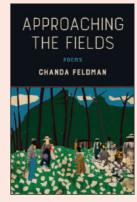
After the United States entered World War I, its government created emergency institutions to organize a war economy, establishing a political model based on the allocation of resources to interest groups that is still with us today. According to historian and lawyer George W. Liebmann, this model has left the United States ill-equipped to pass major new public policy legislation addressed to the citizenry at large. His models for a different future range from John Winthrop's foundation of New England towns in the 17th century to Byron Hanke's development of residential community associations in the 20th.

THE MELTING POT

By Israel Zangwill; edited by Meri-Jane Rochelson, AM'76, PhD'82; Broadview Press, 2018

Israel Zangwill's drama The Melting Pot debuted on the American stage in 1908, intervening in turn-of-thecentury debates about immigration and nationhood with the story of David Quixano, a Russian Jew who has survived the Kishinev pogrom and embraces America as a place of ethnic assimilation. In this critical edition, Meri-Jane Rochelson, professor emerita of English at Florida International

University, suggests Zangwill's play is relevant to our own contemporary debates about immigration and diversity, while presenting supplemental readings that illuminate why it sparked controversy in its own time.



APPROACHING THE FIELDS

By Chanda Feldman, AB'99; Louisiana State University Press, 2018 Approaching the Fields is the first fulllength collection of poetry by Chanda Feldman, visiting assistant professor of creative writing at Oberlin College. Imbuing memory into the Southern US landscape, these poems of place interweave narratives of personal identity, family history, and the larger African American experience in scenes of individual witness and reflection. The collection's penultimate section, "But We Lived," is a sequence based on family stories in and immediately after Jim Crow-era segregation in the South.

FRACTIVISM: CORPORATE BODIES AND **CHEMICAL BONDS**

By Sara Ann Wylie, AB'02; Duke University Press, 2018

While unconventional oil and gas extraction is upheld by US industry leaders and regulators as a path to the energy economy of the future, debates over fracking's human and environmental consequences are playing out in states across the country. New forms of grassroots activism around the practice are also on the rise. Sara Ann Wylie, assistant professor of sociology, anthropology, and health sciences at Northeastern University, documents the work of nonprofits and academic research groups that help affected communities gather data and participate in the public debates.

– Andrew Peart, AM'16



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alter Kaegi, Professor of History, '65-'17

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DFATHS

FACULTY AND STAFF

Angelo Scanu, distinguished service professor emeritus of medicine and biochemistry and molecular biology, died January 12 in Chicago. He was 93. After receiving a Fulbright Scholarship in 1955, Scanu left the University of Naples in his native Italy to study biochemistry at the Cleveland Clinic. In 1961 he entered the UChicago internal medicine residency program, and in 1963 he received his first faculty appointment in the Department of Medicine as assistant professor of cardiology. His research advanced the understanding of lipoprotein(a), a genetic risk factor for atherosclerotic cardiovascular disease. Until his retirement in 2010, he was director or principal investigator on numerous grantfunded research projects and programs, including the Lipoprotein Study Unit and Lipid Clinic. His wife, Ann Wahl Scanu, AM'79, died in 2007. He is survived by his partner, Celina Edelstein; daughter Gabriella Scanu, LAB'83; son Marco Scanu, LAB'84; and two grandchildren.

Jack Halpern, the Louis Block Distinguished Service Professor Emeritus of Chemistry, died January 31 in Chicago. He was 93. A leader in the field of inorganic and organometallic chemistry, Halpern joined UChicago in 1962. His research on homogeneous catalytic reactions in organometallic compounds became instrumental to a variety of modern chemical manufacturing processes, from pharmaceuticals to adhesives. For many years he was editor of the Journal of the American Chemical Society, and from 1993 to 2001 he served as vice president of the National Academy of Sciences, where he was also associate editor of the Proceedings of the National Academy of Sciences. A supporter of the arts, Halpern was a longtime board member of UChicago's Court Theatre and Smart Museum of Art. Survivors include daughters Janice Halpern, LAB'68, and Nina Halpern, LAB'72; a brother; two grandchildren; and a great-grandson.

Milton J. Rosenberg, professor emeritus of psychology, died January 9 in Chicago. He was 92. A social psychologist and a longtime radio host, Rosenberg taught in the Department of Psychology at UChicago from 1965 until his retirement in 1996. For nearly 40 years he hosted the daily longformat interview program Extension 720 on WGN radio, broadcasting to 38 states and bringing top public intellectuals of the day to a mass audience. Rosenberg's scholarship ranged from the hidden social dynamics behind attitude acquisition to forms of public protest in the Vietnam War era. His publications include Vietnam and the Silent Majority: The Dove's Guide (1970) and Beyond Conflict and Containment: Critical Studies of Military and Foreign Policy (1972). In 2008 he won the National Humanities Medal for

his talk show. Survivors include his wife, Marjorie; a son, Matthew D. Rosenberg, LAB'76; a brother; and two grandchildren. Robert McCormick Adams, PhB'47, AM'52, PhD'56, the Harold H. Swift Distinguished Service Professor Emeritus of Anthropology, died January 27 in Chula Vista, CA. He was 91. Adams joined the UChicago faculty in anthropology in 1955, eventually serving in several leadership positions: as dean of the Division of the Social Sciences, as provost of the University from 1982 to 1984, and twice as director of the Oriental Institute. A scholar of Near Eastern archaeology, he reshaped theories about ancient urban societies, pioneered the use of landscape archaeology methods, and left a lasting influence on the study of the Anthropocene. His many books include Land behind Baghdad: A History of Settlement on the Diyala Plains (1965) and two others on Mesopotamian settlement patterns. From 1984 to 1994, he was secretary of the Smithsonian Institution. Survivors include a daughter, Megan Adams, LAB'73; two stepdaughters; and three grandchildren.

Robert N. Clayton, the Enrico Fermi Distinguished Service Professor Emeritus in Chemistry, Geophysical Sciences, and the Enrico Fermi Institute, died December 30 in Michigan City, IN. He was 87. In cosmochemistry, his studies of oxygen isotopes in lunar rocks retrieved by the Apollo missions led to a method of identifying meteorites, which fueled expansive studies of how planets and other bodies in the solar system formed. He also made major contributions to the field of stable isotope geothermometry. Chair of the Department of Geophysical Sciences and later director of the Enrico Fermi Institute, Clayton was awarded the National Medal of Science in 2004. He is survived by his wife, Cathy; his daughter, Elizabeth Clayton, LAB'93; and a granddaughter.

Peter Freund, professor emeritus in the Department of Physics and the Enrico Fermi Institute, of Chicago died March 6. He was 81. A theoretical physicist and literary author, Freund joined the UChicago faculty in 1965 and specialized in particle physics. He was an early contributor to supersymmetry and string theory. His publications in theoretical physics include the monograph Introduction to Supersymmetry (1986) and Superstrings (1988), which he coedited. In 2007 Freund began publishing narrative nonfiction and fiction, including A Passion for Discovery (2007), about famous physicists of the 20th century. He is survived by his wife, Lucy (MacAlpine) Freund, AM'60, PhD'65; two daughters; and five grandchildren.

Moishe Postone, SB'63, AM'67, the Thomas E. Donnelley Professor in the Department of History and the College, of Chicago died March 19. He was 75. Postone was a leading commentator on the works of Karl Marx and studied the phenomenon of 20thcentury anti-Semitism in the context of capitalism's history. His book Time, Labor, and Social Domination: A Reinterpretation of Marx's Critical Theory (1993) put forth an influential reinterpretation of Marx's theories of labor. A UChicago faculty member since 1987, Postone codirected the Chicago Center for Contemporary Theory, was a member of the Greenberg Center for Jewish Studies, and chaired the College Core sequence Self, Culture, and Society. He is survived by his wife, Christine Achinger; his son, Benjamin B. Postone, LAB'II, AM'17; a sister; and a brother.

Raymond Gadke, AM'66, reading room manager at the Joseph Regenstein Library, died February 26 in Chicago. He was 74. A member of the University's library staff since 1969, Gadke began overseeing the microforms department when the Regenstein Library opened in 1971 and went on to manage the periodical reading room and the reference collections. Known for his personal collection of religious statues, he donated rare religious studies materials to the Regenstein and established the Elden and Ruth Lauffenburger Gadke Endowment Fund to acquire scholarly resources in the field. In 2015 more than 50 UChicago alumni raised money to create the Ray Gadke Internship Fund through the Jeff Metcalf Internship Program. He is survived by a brother.

John T. Cacioppo, the Tiffany and Margaret Blake Distinguished Service Professor of Psychology, died March 5 in Chicago. He was 66. A founder of the field known as social neuroscience, Cacioppo served as chair of the Social Psychology Program and director of the Center for Cognitive and Social Neuroscience. Studying the links between social and neural development, he demonstrated the effects of loneliness on mental and physical health. His many publications include Loneliness: Human Nature and the Need for Social Connections (2008). He received the Career Achievement Award from the Chicago Society for Neuroscience in 2016 and the William James Fellow Award from the Association for Psychological Science in 2018. He is survived by his wife, Stephanie Cacioppo, assistant professor of psychiatry and behavioral neuroscience; a daughter; and a son.

Steven Collins, the Chester D. Tripp Professor in the Humanities, died February 15 in New Zealand. He was 66. Collins joined the UChicago faculty in 1991 and taught in the Department of South Asian Languages and Civilizations and the Divinity School's history of religions program. He was an expert in the Buddhist traditions recorded in the Pali language of South Asia. His publications include Selfless Persons: Imagery and Thought in Theravada Buddhism (1982), the textbook A Pali Grammar for Students (2006), and the anthology Readings of the Vessantara Jataka (2016), which he edited. He is survived by his wife, Claude Grangier, senior lecturer in Romance Languages and Literature; three children; and three grandchildren.

Robert J. LaLonde, AB'80, professor at Harris Public Policy, died of complications from a neurodegenerative illness January 17

in Chicago. He was 59. LaLonde was on the UChicago faculty for three decades and served as director of Harris's doctoral program. An expert in labor economics, he was also a fellow at the National Bureau of Economic Research and the Institute for the Study of Labor. He served on the board of the nonprofit Public/Private Ventures, which helps improve the outcomes of community initiatives and social policies and programs. He is survived by his wife, Laura Skosey, LAB'79, AM'87, PhD'96; two daughters, Elena Skosey-LaLonde, LAB'13, and Eve P. Skosey-LaLonde, LAB'16; a son, current Lab student Julian Skosey-LaLonde; his father; four sisters; and two brothers.

1930s

Landrum R. Bolling, AM'38, died January 17 in Arlington, VA. He was 104. Bolling taught political science at Brown University and Beloit College before joining the faculty of Earlham College, a Quaker institution, where he served as president from 1958 to 1973. He later became executive vice president of the Lilly Endowment and then chief executive of the Council on Foundations. A longtime nonviolence advocate, Bolling played an unofficial role in President Jimmy Carter's negotiations with Arab and Israeli leaders and helped secure the 1984 release of a US journalist held captive by Hezbollah. He is survived by two daughters, two sons, eight grandchildren, and four great-grandchildren.

1940s

Myron Rush, AB'42, PhD'51, died January 8 in Herndon, VA. He was 96. Rush was trained as an encryption specialist in the US Army Air Force during World War II and afterward worked in the CIA's Foreign Broadcast Information Service Analysis Group, where he helped establish the field of Kremlinology. While working as an analyst for the RAND Corporation, Rush published The Rise of Khrushchev (1958), which put forth a predictive analytic technique that was used to assess Soviet power struggles during the Cold War. From RAND Rush moved to Cornell University, where he was professor of government, and served the CIA as a consultant intermittently from the 1970s through the 1990s. His wife, Theresa Neumann, AB'44, died in 2012. He is survived by a daughter, two sons, four grandchildren, and a great-grandchild.

Milton Shadur, SB'43, JD'49, died January 15 in Glenview, IL. He was 93. Shadur served as US District judge for the Northern District of Illinois from 1980 until September 2017, though he never officially retired. He wrote more than 11,000 opinions on the federal bench. Many of his notable cases involved civil rights. In 1983 he approved a voluntary school desegregation plan proposed by the Chicago Board of Education. In 1986 he ruled that inmates in protective custody in Stateville Correctional Center had experienced constitutional rights violations. He is survived by his wife, Eleanor; a daughter; a son, Robert H. Shadur, JD'72; three grandchildren; and four great-grandchildren. His daughter, Karen Shadur, AM'87, died in 2010.

Daniel M. Enerson, SB'44, MD'46, died February 5 in Smicksburg, PA. He was 95. A specialist in cardiovascular and thoracic surgery, Enerson contributed to early research in cellular swelling and aortic valve replacement. He was also a thoracic surgeon at West Penn and Allegheny Valley Hospitals in the Pittsburgh region before opening his own private practice in the city. In the 1970s, he and his first wife founded Windgate Vineyards and Winery in Smicksburg. He is survived by his second wife, Catherine; four children; and four grandchildren. Charles Edward Lindblom, PhD'45, died January 30 in Santa Fe, NM. He was 100. The Sterling Professor Emeritus of Economics and Political Science at Yale University, Lindblom taught at Yale for nearly four decades and helped found its Institute for Social and Policy Studies, where he was director from 1974 to 1980. His paper "The Science of Muddling Through" introduced the theory of incrementalism to discussions of public policy change and decision making. In Politics and Markets: The World's Political-Economic Systems (1977), he addressed why organized business dominates the public policy sphere. He is survived by a daughter; two sons, including Eric Lindblom, EX'75; five grandchildren; and three great-grandchildren.

Miriam Gollub Banks, SM'47, CER'94, died November 25 in Chicago. She was 96. A longtime resident of Hyde Park, Banks studied biochemistry at UChicago. She put her scientific training to work volunteering for Chicago Public Schools to help evaluate and update their science curriculum. Her husband, Seymour Banks, MBA'42, PhD'49, died in 1996. She is survived by a daughter, Hannah Banks, LAB'70; sons Joel Banks, LAB'73, and David Banks, LAB'77; and five grandchildren.

Mary (Wheeler) Heller, PhB'47, died December 25 in New York City. She was 89. A professional fine art photographer, Heller was a longtime board member of the International Center of Photography and the MacDowell Colony. She served as president of the board of the Chamber Music Society of Lincoln Center and supported land conservation and historic preservation on Nantucket, MA, through the 'Sconset Trust, a nonprofit she helped found. Survivors include a daughter and two grandchildren.

Gabriel J. Fackre, DB'48, PhD'62, died January 31 in Oregon City, OR. He was 92. A theologian and pastor in the United Church of Christ, Fackre taught at Lancaster Theological Seminary before joining the faculty of Andover Newton Theological School, where he was the Abbot Professor Emeritus of Christian Theology since his retirement in 1996. As president of the American Theological Society in 1990-91, he stressed ecumenical dialogue among Christian denominations. His theological writings

included a five-volume series on Christian doctrine, The Christian Story (1978-2007). He is survived by four daughters, including Skye F. Gibson, AB'82; a son; eight grandchildren; and a great-grandson.

1950s

William M. Cross, AM'51, died March 2 in Springfield, IL. He was 91. A minister in the Evangelical Lutheran Church of America, from 1955 to 1992 Cross served numerous Lutheran congregations throughout the Midwest. He earned a doctorate in sociology at South Dakota State University in 1971 and taught at Valparaiso University, Purdue University Northwest, Illinois College, MacMurray College, and Lincoln Land Community College-Jacksonville, IL. He is survived by two sons.

Ernest J. Blum, AB'52, AM'59, of Miami, FL, died January 17. He was 86. Blum was a journalist, linguist, and travel writer. He reported on Japanese business and cultural news for Economic Salon, a New Yorkbased business magazine, and covered the cruise industry for Travel Weekly, a national newspaper for travel agents. His career was marked by extensive travels and a passion for learning new languages. He is survived by his wife, Lois; a son; and a daughter.

David M. Solzman, AB'53, PhD'66, of Chicago, died February 19. He was 83. Solzman was an associate professor emeritus of anthropology at the University of Illinois at Chicago (UIC), where he taught geography, meteorology, and astronomy since 1965. An expert in urban geography, he authored the book The Chicago River: An Illustrated History and Guide to the River and Its Waterways (1998) and frequently gave local boat tours for alumni of both UIC and UChicago. He is survived by his wife, L. Rachel McKinzie; two daughters; a brother; and a granddaughter.

Hazel L. (Mason) Hadley, EX'54, of Palmyra, PA, died December 27. She was 97. Hadley was a civilian mathematics instructor in the US Navy during World War II and later studied mathematics education at UChicago. Her career as a mathematics instructor included positions at high schools, the University of Mary Hardin-Baylor, and the Ohio State University. Her husband, Wayne B. Hadley, PhD'54, died in 2001. She is survived by a daughter and a brother. Richard H. Lobenthal, AB'55, of West Bloomfield, MI, died September 26. He was 83. Lobenthal was the Michigan director of the Anti-Defamation League (ADL) from 1964 to 1996. In retirement he served as Midwest regional director of the ADL and interim director of the American Civil Liberties Union in Michigan. He is survived by his wife, Judith Kovach; a daughter; a son; a brother, Joseph S. Lobenthal, AM'52, JD'55; seven grandchildren; and seven great-grandchildren.

David O. Munroe, MBA'56, died February 22 in Centerville, OH. He was 92. Munroe worked for International Business Machines (IBM) in Westchester County, NY, from 1963 to 1989. In retirement he volunteered as a business manager for St. Joseph Catholic Church and School in Cincinnati, where he also assisted with business operations at Venice on Vine, a preemployment training and job placement program through the nonprofit Power Inspires Progress. Survivors include his wife, Lenore; three daughters; and four grandchildren.

Munir M. Nawas, AM'58, PhD'61, died July 23 in Berg en Dal, Netherlands. He was 89. An academic specialist in clinical psychology, he taught at the University of Missouri, Indiana State University, and Radboud University in the Netherlands until retiring in 1983. He published numerous articles on the fundamentals of psychotherapy and wrote a popular student handbook on theories of personality. He is survived by his wife, Eugenia; a daughter; two sons; and five grandchildren.

1960s

Robert Pincus-Witten, AM'60, PhD'68, died on January 28 in New York City. He was 82. An influential art critic, Pincus-Watten was a longtime contributor and editor for Artforum and a professor at the City University of New York (CUNY). His books include Eye to Eye: Twenty Years of Art Criticism (1984) and Postminimalism into Maximalism: American Art, 1966-1986 (1987). After retiring from CUNY in 1990, Pincus-Witten switched to the commercial art world, serving as curator at Gagosian Gallery and director of C&M Arts (later Mnuchin Gallery). Bernard P. Alpiner, SB'60, died February 5 in Libertyville, IL. He was 81. Trained as a physicist, Alpiner worked for companies specializing in electronics and automatic test equipment before cofounding Chicago Laser Systems (CLS), an international corporation that manufactured laser equipment. He retired in 1994, after CLS was acquired by a high-tech company. He is survived by his wife, Patricia; three daughters; six stepsons; a sister; and 11 grandchildren. Elizabeth S. Mayhall, AB'61, died January 25 in Durham, NC. She was 78. Mayhall lived abroad with her husband and children in London and Kolkata, India, before they settled in Durham in 1973. Mayhall was a senior psychiatric diagnostic technician at Duke University Health System's Division of Neurology until her retirement in 2001. She is survived by a daughter, a son, two stepdaughters, and five grandchildren.

Jay Bloom, AM'62, died January 21 in Oakland, CA. He was 80 years old. From 1965 until his retirement in 1999, Bloom was an associate professor of economics at the State University of New York, New Paltz, where he served as department chair in economics and helped establish a separate department of business. He also served as a faculty adviser to Hillel and president of the local chapter of United University Professions. He is survived by his wife, Judith; a daughter; a son; and three grandchildren. Abby Dorfman Tanenbaum, LAB'62, AB'66, of Naperville, IL, died October 13. She was 72. Tanenbaum was a retired college math instructor. She is survived by her husband, William M. Tanenbaum, SB'66; two daughters; a sister, Julie Dorfman, LAB'66, and a grandson. [See Alumni News, page 60.-Ed.]

Stephen A. Zarlenga, AB'63, of Valatie, NY, died April 25, 2017. He was 75. Zarlenga was founder and director of the American Monetary Institute, a nonprofit charitable trust dedicated to the study of monetary history and the cause of monetary reform. In The Lost Science of Money: The Mythology of Money, the Story of Power (2002), he critiqued the private control of the US monetary system. [See Alumni News, page 59.—Ed.]

William R. Arnold, PhD'63, of Lawrence, KS, died November 17, 2016. He was 83. A sociologist who specialized in criminology, Arnold taught at Hanover College and the University of Texas at Austin before joining the University of Kansas, where he was an associate professor of sociology for more than three decades. His books on youth crime and criminal justice include Juveniles on Parole: A Sociological Perspective (1970) and Juvenile Misconduct and Delinquency (1983). He advocated for changes to sentencing guidelines in the Kansas state legislature and policies to reduce disproportionate minority youth confinement. He is survived by his wife, Margaret; a daughter; two sons; eight grandchildren; and five great-grandchildren.

Marvin Frankel, PhD'64, of Bronxville, NY, died in mid-January. After briefly teaching at the University of Chicago, he joined the faculty at Sarah Lawrence College in 1971, where he was professor of psychology until his death. His classes taught therapeutic models and addressed clinical situations but also posed philosophical questions about mental health concepts and criteria. [See Alumni News, page 62.—Ed.] Stanley Bach, AB'66, died May 30, 2017, in Tampa, FL. He was 71. Bach taught at the University of Massachusetts before moving to Washington, DC, in 1974 to work in the federal government. He joined the Congressional Research Service of the Library of Congress in 1976, where he was a senior specialist in the legislative process until his retirement in 2002. He coauthored Managing Uncertainty in the House of Representatives: Adaptation and Innovation in Special Rules (1988), about congressional strategy and decision making in the 1980s.

1970s

Albert S. Liu, SB'71, of Walnut Creek, CA, died January 18. He was 70. A program manager in the federal government, he held positions in human resources at the Internal Revenue Service and in the Public Buildings Service at the General Service Administration. He ended his career as manager of computer systems for a regional office of the GSA. He is survived by a brother.

Jack L. Uretsky, JD'75, died August 24 in Hinsdale, IL. He was 93. A theoretical physicistandalawyer, Uretsky establishedalegal practice in Illinois that ranged from military veterans' issues to patent law. At the time of his death, he was a guest physicist in the High Energy Physics Division at Argonne National Laboratory. Survivors include a daughter, a son, three grandchildren, and one great-grandson.

1980s

Michael L. Hemler, MBA'85, PhD'88, of Granger, IN, died February 14. He was 64. An associate professor of finance at the University of Notre Dame's Mendoza College of Business, Hemler taught courses on derivatives, financial management, and applied investment management. His research on investments concentrated on financial derivatives. He is survived by his wife, Deb; three daughters; a stepdaughter; a stepson; and two sisters.

2000s

Mary Ellen Konieczny, PhD'05, of South Bend, IN, died February 24 of cancer. She was 58. Associate professor of sociology and the Henkels Family Collegiate Chair at the University of Notre Dame, Konieczny was the author of The Spirit's Tether: Family, Work, and Religion among American Catholics (2013), an ethnography of Catholic parishes and their politics, and coeditor of Polarization in the Catholic Church: Naming the Wounds, Beginning to Heal (2016). She was at work on a book about religion in the military. She is survived by her husband, Chris Chwedyk; two sons; her mother; and two brothers.

Robert E. Croston Jr., AM'06, of Chicago, died March 5 of Marfan syndrome. He was 34. Croston was principal of Jenner Academy of the Arts, an elementary school in the former Cabrini-Green area of Chicago's Near North Side. He helped bring about a merger that goes into effect this fall between Jenner, which serves a majority African American and lower-income student population, and nearby Ogden International School, which draws from a largely white and wealthier population in the neighboring area. He is survived by his wife, Sheena; his father; three sisters; and a brother.

2010s

Cynthia DuBois, MPP'10, died of cancer January 2 in Chicago. She was 32. Dubois earned a master's in public policy at Harris Public Policy before entering the Northwestern University School of Education and Social Policy, where she received her PhD in 2017. Her doctoral research focused on affirmative action policies intended to diversify candidate pools in labor markets ranging from professional football to education. She is survived by her partner, John Boller, SM'91, PhD'99; her father; and her sister.

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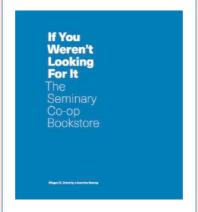


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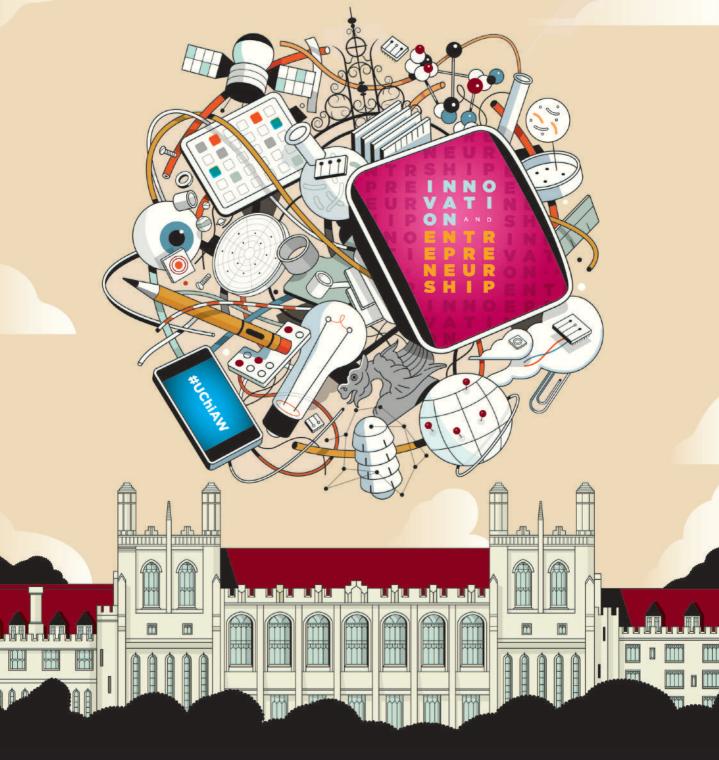
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