In which we discuss

AFRICAN CIV IN DAKAR · SCIENCE BY THE SEA

Also Trilobites · Delis · Passion projects · Native plants · Calculus · “The Rosetta Stone for Birdcalls”

THE COLLEGE MAGAZINE
Summer 2018 Supplement to
The University of Chicago Magazine
“I’m just thrilled. It was a fabulous experience.”

—June Gordon Marks Patinkin, LAB’44, AB’18
From the editor

GARDENS OF EMPIRE

Before I lived in England, I was utterly uninterested in gardening. I was amused to discover it was an English obsession, even among young hipster Londoners. In an era when there were just four television channels, a gardening show aired at 8:30 p.m. on Friday. England's history as a nation of amateur gardeners began in the 18th century, when plant collectors scoured the globe, searching for ever-more exotic specimens. Plants from all over thrived in England's mild, damp climate. English gardens became tiny reproductions of a worldwide empire.

In Chicago I've tried to recreate the lush window boxes that are standard outside even the grottiest London pub. I have cosmos from Mexico, osteospermums and lobelia from southern Africa, mandevillas from Bolivia and Ecuador. I have two kinds of impatiens—one native to New Guinea, one to Tanzania and Mozambique. I have "Fancy California" English ivy and so-called French marigolds, originally from Mexico and Guatemala. (See page 10 for a contrarian view of nonnative plants.)

In the sunniest box I planted lantana—a six-foot shrub in its native Central and South America—to lure ruby-throated hummingbirds, which migrate here in spring. Fifteen minutes after I put it in, I was drinking a cup of tea (native to China, transplanted to India by the British to break the Chinese tea monopoly) when a female hummingbird stopped to feed. Like expatriates everywhere, she enjoys the comforts of home.

—Carrie Golus, AB’91, AM’93
A YANK AT ETON

Miles Morgan, AB’17, AM’17, spent 2017–18 teaching at Eton College through the Annenberg Fellowship. Eton, a British boarding school founded in 1440 by Henry VI, includes among its alumni (“Old Etonians”) Prince William, Prince Harry, and 19 prime ministers. The fellowship brings a recent graduate from an American university to Eton to teach and coach for a year. Morgan teaches English and drama to “F Block,” roughly equivalent to eighth grade.

What surprised you the most about Eton?

The boys. I’ve met students from all over the world, among them refugees, a few Americans, and the occasional boy with a title.

Made any cultural faux pas?

During my first lunch, everyone’s plate was taken away except mine. I hadn’t laid my knife and fork down parallel, signaling I was finished. Now when I go home, mine is the only plate that subscribes to that strange ritual.

Favorite British things?

I love taking trains. Digestive biscuits are a new addition to my lifestyle. I’ve also been charmed by the reliance on the community—you have your butcher, your fishmonger, your baker.

The fellowship requires you to coach sports. How’s that going?

I told my brother I was asked to join the basketball coaching staff here. He reminded me the only person he knows who’s worse at basketball than him is me. I contribute with inspirational quotations.

How’s your accent doing?

My best friend came to visit and thought I sounded ridiculous. When I direct plays, I argue with my actors about pronunciation. We were doing A Few Good Men, and the line “a dime bag of oregano” doesn’t have the same rhythm in an English accent.

Future plans?

There’s a quotation from Lin-Manuel Miranda via Robert Rodriguez: “Don’t let them know what your sophomore project is.” I’m interested in sustainable farming. I don’t have a lot of time for my creative practice in this job, so I see more of that on the horizon.

As a teacher, what have you learned?

I often sit in on other classes to learn from people who have been doing this job longer than I’ve been alive. I’ve learned some hard lessons—you don’t win over every student, time management is essential to sanity, the soul must be fed by alternative fulfillments, and sleep is so important.

—Edited and adapted by Carrie Golus, AB’91, AM’95
WHAT’S NEW IN THE COLLEGE

2018 Quantrell winners
The College bestowed five Quantrell Awards for Excellence in Undergraduate Teaching this year, recognizing Stuart Gazes, senior lecturer of physics; Kimberly Hoang, assistant professor of sociology; Boaz Keysar, professor of psychology; Peggy Mason, professor of neurobiology; and Nadine Moeller, associate professor of Egyptian archaeology. The award is based on letters of nomination from students.

All-female Summer Breeze in Hutchinson Court
This year’s Summer Breeze concert, held May 19 in Hutchinson Court, featured an all-female lineup for the first time: Carly Rae Jepsen, Empress Of (Lorely Rodriguez), and Princess Nokia (Destiny Nicole Frasqueri). In honor of the show, carillonneur Josh Kaufman, AB’18, played Jepsen’s “Call Me Maybe” on Rockefeller Chapel’s carillon. See the video at www.facebook.com/UChicagoMAB.

Prayer spaces in the Reg
A new prayer room opened on the B level of the Regenstein Library in May. Students and others with a University ID can request access from the Office of Spiritual Life (spirit@uchicago.edu). In addition, the nursing mothers’ room on the B level can now also be used as a women’s prayer space.

A Lego dean
A new College Admissions video features a Lego version of Dean John W. Boyer, AM’69, PhD’75. As sprightly electronic music plays, Boyer rides his bicycle around campus and calls out a cheery “Hello” to students. Watch the video at collegeadmissions.uchicago.edu/summer-fridays.

Top 6 FARTHEST STUDY ABROAD PROGRAMS

- **Vienna**: 4,682 miles
- **Athens**: 5,430 miles
- **Jerusalem**: 6,182 miles
- **Beijing**: 6,585 miles
- **Hong Kong**: 7,778 miles
- **Pune, India**: 8,094 miles

During winter quarter the College offered African Civilizations in Dakar, Senegal—4,526 miles from Chicago—for the first time. (Read more on page 22.) If that’s not far enough, here are some even more distant Study Abroad options.
Based on the fossil record, about 521 million years ago trilobites exploded out of the Cambrian Period and onto the scene. These three-lobed segmented arthropods swarmed the seas until an extinction event 250 million years ago wiped them out, along with 90–96 percent of all marine species.

Trilobite fossils have been found on every continent, making them fairly recognizable. But because they are embedded within rock, half of these creatures’ bodies remains hidden. As a kid, artist and UChicago biochemist D. Allan Drummond really wanted to flip them over and see what was underneath. He found this limitation “completely unsatisfying.”

Now he brings trilobites back to life as sculptures you can pick up, roll around, and study from all angles. Drummond designs the trilobites meticulously, 3-D prints individual pieces, then assembles them after they’ve been cast in bronze using a lost-wax technique.

“This one has a little secret,” says Drummond, pulling out the antennae of his Cryptolithus bellulus sculpture before separating the body to reveal its digestive and nervous systems within. It’s all held together with magnets.

“Trilobites are distinguished by their incredible morphology,” he says, “particularly on top—some have wild spines, some have wraparound eyes. Their undersides have legs, gills, and antennae.” To recreate trilobites with the highest degree of accuracy, he studied photographs and papers going back a century—in particular work that examined rare soft-tissue-preserving fossils to characterize their less durable bits.

“I am obsessed with figuring out how things work,” he says. In other words, he wants to get to the bottom of things.

—Maureen Searcy
It’s one of the most terrifying emergencies a doctor, nurse, or paramedic can face: a patient in distress, asphyxiating on “their own blood, vomitus, or secretions,” says James DuCanto, AB’88.

DuCanto, an anesthesiologist at Aurora St. Luke’s Medical Center in Milwaukee and director of its simulation center, is the inventor of a technique to treat such patients: Suction Assisted Laryngoscopy Airway Decontamination, known as SALAD. He also came up with the modifications needed to turn a standard airway management training mannequin into a simulator to train medical professionals to use SALAD. He provides the plans for free online—including his recipe for fake vomit.

DuCanto spoke with the Core on this unappetizing but critical simulation, and how it’s taken off.

**How the machine came to be**

DuCanto’s road to SALAD started with “curiosity, boredom, and lots of trips to the hardware store.” He had modified mannequins before to practice airway management techniques, but one day in 2013, “I determined that the only feature that I had not hacked yet was the esophagus.” A few simple add-ons—a pump, some tubing, and some fake vomit—turned the dummy into a realistic simulator of a patient simultaneously choking and vomiting. At first this was for his own curiosity, but after sharing the concept with colleagues, he realized that medical training wasn’t properly addressing how to decontaminate a patient’s airway. He developed a training regimen to go along with it, and thus SALAD was born.

**Particularly for certain hard-living patients**

The training module is incremental, he explains, starting with a simple challenge of using suction to clear the mouth and throat and culminating in a “dynamic” exercise (i.e., one with active barfing). “We made SALAD simple, free, and totally freakin’ obvious. This educational module saves rescuers time, effort, and more, and allows them to save the lives of patients that would otherwise asphyxiate with their own airway contaminant—like rock stars seem to do,” says DuCanto. “You could call this a rock-star protection program.”

**Finally, a good use for social media**

Before developing the mannequin and the SALAD technique, DuCanto had been part of a community that shared information with medical bloggers from the United States, United Kingdom, Australia, and Canada. These contacts helped spread SALAD in their own communities. “The concept of free open-access medical education was instrumental to the gestation of this project, as I felt that something as simple yet profound as the SALAD simulator deserved to be shared as widely as possible.” His closest collaborator: a primary care physician on a remote island off the coast of Australia.

**Failure and catharsis**

“When I presented this simulator to EMTs [emergency medical technicians] and paramedics, I witnessed experienced grown men and women go from calm and collected to nervous—hyperventilating and physically shaking—as they approached the simulator,” he says. “These individuals had watched patients die” this way, and learning how to save them was a cathartic experience. DuCanto even became a kind of support group leader for these medical professionals who were reliving past failures. “I was deeply moved by this.”

—Benjamin Recchie, AB’03

For a video of a SALAD simulation with “solid simulated airway contaminant,” see mag.uchicago.edu/ducanto. DuCanto’s warning: “Don’t watch this video while eating. You’ll see why.”
Like nearly a quarter of students in the College, rising third-year Max Teplitz is an econ major. But he’s minoring in modern Hebrew. “My Jewish identity has always been pretty important to me,” he says.

Last summer, with a research grant from the University’s Joyce Z. and Jacob Greenberg Center for Jewish Studies, Teplitz got the chance to explore that identity by making a short video about an essential slice of Jewish (and New York) culture: delis.

Teplitz grew up in Manhattan making comedy shorts with friends. For his first foray into the documentary genre, he used a simple Canon point-and-shoot camera with video capabilities. He borrowed a friend’s microphone to record the voiceover. A good chunk of the Greenberg Center funding went toward purchasing Final Cut Pro, he says, “because I’ve kind of exhausted my iMovie knowledge.”

The resulting eight-minute video, Kosher Style, digs into the histories and menus of three New York eateries: Katz’s Delicatessen (on the Lower East Side), Pastrami Queen (Upper East), and Barney Greengrass, aka “The Sturgeon King” (Upper West).

A pastrami man, Teplitz has more to say about the first two. He picked Katz’s, he says, “because it’s become a culturally important restaurant. Everyone who goes to New York, people ask, ‘Did you go to Katz’s?’ It’s been in movies.” Indeed, the restaurant has all the tourist trappings, including a sign, glimpsed in Teplitz’s video, that reads “Where Harry Met Sally.” (Harper Quad might quibble with that.) The choice of Pastrami Queen was more personal: It’s right down the street from Teplitz’s old high school, he knows the manager—the baseball-capped Jack Turner featured in the video—and, Teplitz says, “My friends and I would eat there all the time.”

He judges the sandwiches at both restaurants “delicious” but gives Pastrami Queen bonus points for keeping it kosher. Among other steps, the meat has to be “salted to dry out all the blood, so you have to consider that while you’re cooking it,” he says. “I view it as more of a preservation of authenticity.”

This summer Teplitz is leaning more on his major for a finance fellowship in Tel Aviv. His long-term goal, he says, is to start his own company—“not necessarily deli related.”

—Sean Carr, AB’90

Watch Teplitz’s Kosher Style at mag.uchicago.edu/kosherstyle.
HOW TO BE A TEACHER ON MARS

Michael Wing, AB’85, on his career guide for “the PhD barista.”

Michael Wing, AB’85, thought he wanted to be a professor. But after earning a PhD from the Scripps Institution of Oceanography, University of California, San Diego, he walked away from jobs at Hobart and William Smith Colleges in New York and Middlebury College in Vermont. “I can’t even explain it,” he says. “Iburned my bridges with academia not once but twice.” He went back to school, got a teaching certificate, and took a job teaching ninth grade in San Anselmo, California. He liked it but missed doing research. So Wing applied to participate in a study tour of the Galapagos Islands through the Toyota International Teacher Program. “It was totally free,” he writes in Passion Projects for Smart People (Quill Driver Books, 2017). “Toyota Motor Sales paid for everything, including our substitute teachers back home.” Since then Wing has done field work in Costa Rica, Alaska, Finland, Namibia, India, the United Arab Emirates, the Pacific Ocean, and the High Arctic, all supported by outside organizations. He’s collaborated with NASA and the National Park Service and published his work in peer-reviewed journals. He explains howhe’s done it in Passion Projects, “the perfect career guide for the era of the PhD barista,” as the jacket copy puts it.

Wing’s recent passion projects

Canadian Arctic
Wing has an “ongoing loose collaboration” with Pascal Lee of the Mars Institute. Lee does research at Devon Island, which has a “Mars-like geology,” says Wing.

Point Reyes National Seashore, Marin County, California
Wing and a group of high school students surveyed an 800-foot line of granite stones set into the ground, once thought to be prehistoric. They discovered that the small stones were set crosswise and the big stones lengthwise, just like stone walls in New England. Wing concluded the structure had been built by 19th-century ranchers. Wing and two student coauthors published their findings in a 2015 issue of California Archaeology.

White Mountains, California–Nevada border
Wing and his students have done several research projects here. One focused on bristlecone pine trees, the oldest trees in the world. Wing wondered why the grain in the wood twists. So his students measured 600 trees: “Some are righties, some are lefties, some are straighties,” Wing says, with no correlation to their environment. This research was published in the journal Trees: Structure and Function in 2014. For seven years, Wing and his students grew an alpine garden at 12,500 feet, “like a mock Mars colony,” he says. They succeeded in growing lettuce, radishes, potatoes, winter wheat, garlic, and herbs.

Wing’s current project is a study of stone structures allegedly built by Basque and French shepherds from 1850 to 1950. Not all the structures are shepherds’ huts, he says; others are tent circles or hunting blinds built by Native Americans. He and his students are surveying them to discover which is which.

—Carrie Golus, AB’91, AM’93
“I can’t even explain it. I burned my bridges with academia not once but twice.”
—Michael Wing, AB’85
Instead of planting nonnative forsythia (below), which has little to recommend it beyond a few weeks of yellow flowers, Charlotte Adelman, AB'59, JD'62, recommends (right, from top) ninebark, clove currant, or American bladdernut.

Gardening

RIP OUT YOUR LAWN

Retired attorney Charlotte Adelman, AB'59, JD'62, builds the case against nonnative plants.

“The monoculture lawn,” writes Charlotte Adelman in The Midwestern Native Garden (Ohio University Press, 2011), “is of virtually no value to wildlife. The vast space taken up by lawn in the midwestern landscape could be used more productively.” After years of arguing in front of the bench, Adelman, AB'59, JD'62, now argues for gardeners to replace the imported plants that fill suburban gardens with species that thrive here naturally.

Along with Midwestern Native Shrubs and Trees (Ohio University Press, 2016), The Midwestern Native Garden, written by Adelman with photography and editorial assistance from her husband, Bernard Schwartz, offers native alternatives to nonnative species.

Take Kentucky bluegrass, a common component of the American lawn. “People use lawns in ways they never should have been used,” Adelman says, citing their original “overtones of status and conformity” to show the homeowner could afford to use a large plot of land for something other than food or cash crops. Despite its name, Kentucky bluegrass is native to Europe and northern Asia, in areas where it rains year-round. As most homeowners and lawn services can tell you, maintaining a lush green carpet in the Midwest or other areas with dry summers requires almost daily watering in addition to “cutting, fertilizing, weeding, edging, reseeding, and herbicide applications.” Also, she says, grass pollen is allergenic. Adelman offers alternatives in the book, including blue grama, also known as grama grass; buffalograss; and various sedges, rushes, and ground covers, some of which can be mowed and none of which require the amount of service Kentucky bluegrass does.

Adelman has spent a career fighting opponents equally as formidable as Kentucky bluegrass and periwinkle vines.

After graduating as one of four women in her Law School class, numerous employers—including the US attorney’s office—told her they didn’t hire women. Two years before the passage of the Civil Rights Act, it was a perfectly legal policy. She practiced privately, struggling to get clients. “My own parents sent their
cases to my brother-in-law [Arthur Solomon, AB’60, JD’61],” Adelman said. She and several other women lawyers offered free consultations at the downtown YWCA, which occasionally yielded a paying case. Gradually she built up a practice, largely based on family law.

She also worked with the American Civil Liberties Union and the National Organization for Women on a few cases, and testified before the Illinois Fair Employment Practices Commission on guidelines for sex discrimination. Noting that many of her clients had difficulty getting their ex-husbands to pay child support, Adelman helped draft legislation for a collection law, which passed in 1980.

She has served as president of the Women’s Bar Association of Illinois and is currently the group’s historian/archivist.

As she approached retirement in 1999, Adelman thought about her garden in suburban Wilmette, Illinois. She had always loved nature and wildlife, dating back to her childhood in Rogers Park. In her family’s one-bedroom apartment half a block from Lake Michigan, she grew up falling asleep “to the gentle—and much-missed—sounds of waves lapping the shore.” Before her senior year, Adelman’s family moved to nearby Lincolnwood, Illinois, still prairie in those days, which she remembers for the “magnificent” cottonwood trees and bobwhite quail in the backyard.

But over the years, Adelman noticed her and her neighbors’ lawns and gardens were strangely devoid of birds, butterflies, and the like—though they did need defending from rabbits and deer.

When she found a small planting of native flowers, she saw bees and butterflies gathering nectar from the black-eyed Susans and birds eating seeds from purple coneflowers.

She began to do research, discovering that the nonnative plants she’d thought of as garden staples required more water than native plants, which have adapted to the available water in their ecosystems. Nonnative plants often require herbicides to avoid being overcome by native plants, and pesticides to keep insects from devouring them. In contrast, native plants have evolved to attract and coexist with local fauna.

Adelman, who says, “I like to do projects,” had found one for her retirement. She and Schwartz destroyed their backyard lawn and replaced it with a prairie. They worked with the Wilmette Park District to create what became the two-acre Centennial Prairie Garden. They also successfully lobbied the village and library to stop applying pesticides.

The books are an effort to proselytize to a wider audience, conditioned over the years to believe “it’s better to have an English garden than a boring American garden.” She admits that nonnative flowers are lovely, but they won’t “help the animals we love. We all want beauty, but not so specific that it excludes things that are so important.”

Availability is the biggest challenge. According to Adelman, 80 percent of the plants at retail garden centers are nonnative. When ordering plants for the Wilmette prairie, she relied on a few retailers in Wisconsin and online sources. Some parks and garden clubs also have local plant sales.

In her books, Adelman takes apart arguments against native plants. For those concerned about the “weedy” or “disorganized” look, she argues in Midwestern Native Shrubs and Trees, “Many native species resemble or look exactly like nonnative species and share cultivation requirements.”

Adelman believes she is on the right side of history. “Adjusting and accepting the inevitable presence of vistas of prairie, woodland, wetland, and savanna,” she says, “will be the pleasant fate of urban and suburban human populations, as well as of local wildlife, including birds, butterflies and moths, bees, and other pollinators.”

—Jeanie Chung

For a list of native substitutes for common nonnative plants, see mag.uchicago.edu/nativeplants.
During the 2013–14 academic year, Jason Roberts, AB'93 (mathematics), and Sandy Roberts, AB’96 (economics), were asked to coach their son’s fourth-grade Math Field Day team. Jason started with negative numbers and by the end of the year had covered much of prealgebra—typically taught in seventh or eighth grade. The next year the Robertses ran an enrichment class for the same kids, teaching topics from algebra, geometry, trigonometry, and even a little bit of calculus.

By last academic year the program had become a nonprofit called Math Academy, offering accelerated classes at four Pasadena, California, middle schools. The next goal: a high school curriculum focused on college-level proof-based mathematics.

Jason, who started working at Uber when it had fewer than 10 employees, is a consultant and adviser to start-ups and Fortune 500 companies. Sandy serves on several nonprofit boards, including Junior League of Pasadena, Young & Healthy, and Pasadena Educational Foundation.
Math Academy expanded so quickly—from coaching to enrichment class to regular classes approved by the school board in just four years.

JASON: I’m incredibly impatient.

SANDY: I can vouch for that. But it was also coming from the kids. In fifth grade they kept asking, “What’s the highest math?” I told them there’s really no such thing, but let’s say calculus. So they asked, “When are we going to learn calculus?” every single day. Finally Jason was like, all right, here’s calculus. And they learned it. Fifth graders. Ten years old.

JASON: My background is in startups and technology. You can change the world with a good idea and furious execution.

There’s a natural sluggishness to school systems in general. You have to push really hard to change anything.

Is the program mostly boys?

SANDY: About half the class is girls, because we get them young enough. They’re in a cohort with other girls who love math. They develop their identities around the concept that they are good at math and being smart is cool. In a lot of our classes, the girls are dominant.

JASON: A couple of the top girls in my seventh-grade class are cheerleaders. We have two whiteboards spanning the walls so I can have everybody up at the board while I’m yelling out problems. Sometimes when these particular girls finish first, they practice their cheers.

Did you have tutoring or teaching experience before? Did you consider that as a career?

SANDY: Never. I was on the track team at U of C. The public schools wanted to do after-school track, so I volunteered, and I couldn’t stand it.

JASON: I was in 160s calculus so I was the resident math genius on our floor. I had a knack for explaining complex things to people. I would say, you think this is complicated, but I can explain it in three minutes. Watch. Sandy would always joke—

SANDY: Don’t ask Jason what time it is, he’ll explain how to build a clock.

JASON: I always had it in my mind that teaching was something I wanted to do. But I’m not going to lie. The kids can be really frustrating when they’re acting crazy.

SANDY: Jason is much more comfortable with chaos.

JASON: If it’s productive, I don’t mind the noise. I coach my kids’ under 6 and under 8 soccer teams. I give everybody a ball and tell them to dribble. It looks like insanity, but the kids are having fun and getting lots of touches on the ball.

When teaching advanced math to kids this young, do you have to do things differently?

JASON: The kids spend the hour doing math, not listening to me talk. It’s modeled after the concept of deliberate practice. When you take chess or tennis or golf lessons, you go to an expert and they give you immediate corrections.

We also employ something called distributive practice to counter what’s known as Ebbinghaus’s forgetting curve. Any new idea, name, word, whatever, starts to fade unless it’s reinforced, and exponentially decays to near zero. We’re continually hitting them with stuff right as they’re about to forget it.

—Edited and adapted by Carrie Golus, AB’91, AM’93

Summer 2018 / 13
In three weeks, there are just over 500 hours. The students in the Marine Biological Laboratory’s September intensive courses tried to use them all.

by Lydialyle Gibson
In September 2017, the College offered its first three courses at the Marine Biological Laboratory in Woods Hole, Massachusetts. Taught by UChicago and MBL faculty, the intensive three-week courses are designed for students with a strong interest in research. The classes are scheduled to meet five or six days a week, eight hours per day—but most days run much longer.

By the second day of the second week of Jack Gilbert’s course on microbiomes, time is starting to feel a little bent and fuzzy. Gilbert and his group—co-instructor David Mark Welch; teaching assistant Sophia Carryl, SM’17; and a dozen undergraduates—have spent most of the past 24 hours in the lab, working through the night on research projects begun only three days earlier. By the end of next week, those projects will have to be finished.

Meanwhile, last week seems like a distant memory: introductory lectures from Gilbert, a microbial ecologist at UChicago and Argonne, and Mark Welch, an MBL evolutionary biologist, on ecology and microbes and microbiomes, how to investigate them, why they matter. (Some of the students are biology majors, but others come from economics, mathematics, computer science.)

“And then we just gave them carte blanche to come up with research projects,” says a bleary Gilbert, making himself another cup of black tea in the laboratory kitchen.

Students sampled the bacteria in the water and sand and wetlands around MBL; they sampled...
their own feces and skin. One student, researching whether tidal changes altered the microbiomes on the beach and in the surf, rose before five o’clock one morning to sample the sand at low tide. Another is studying how well bacteria from her fingers survive on coins of different metals—a nickel, a penny, a dime—and whether that microbial residue could be used to identify her. Another is comparing the microbiomes of newly hatched skates to those of adults.

Last night and into this morning, the students extracted the DNA from their many samples and ran polymerase chain reactions to amplify it. It was the first time most of them had attempted either of these procedures. Now, at about 2 p.m. on Tuesday, a few students are trickling back from lunch; the rest are in the lab already, mixing gels and hovering near Carryl, a third-year graduate student whose own research examines avian microbiomes and who was the last one out of the lab the night before. She’s not sure what time that was.

In the room next door, Mark Welch sits down beside a large tabletop device that looks like it might be about to lift off, white and semi-diamond-shaped and pointing toward the ceiling. Accompanied by a student in a blue polo shirt and khaki cargo shorts, he explains how the ultraviolet light inside the machine will activate the dye binding to fragments of DNA, which have been placed on a sheet of milky translucent agarose gel. If everything works—if the DNA sample was extracted properly and the polymerase chain reactions amplified it—then on the computer screen next to the device, “we should see a series of bright bands,” he says. If the results are good, the next step will be sending the DNA off for sequencing to identify the bacterial species.

Mark Welch hesitates for a beat. “OK,” he says. “This is the moment.” He flips the switch to turn on the ultraviolet light. Against the dark background of the computer screen, two rows of white bands appear, some sharp, some ghostly, but all unmistakable. “Ah!” he exclaims. “Hoo-hoo! Oh, that’s beautiful.”

Now it’s closing in on 3 p.m., and everyone trundles upstairs for three student presentations of scientific papers: the resilience of soil microbe diversity, the influence of architectural design on a hospital’s microbiome, the microbial “biogeography” of public restrooms. Being able to tell a compelling story about ideas and findings, Gilbert believes, is an important part of science. For his students, this is practice. It’s also a chance for them to poke around in published papers to look for holes.

“Did they not measure the toilet plume?” one student asks at the end of the restroom study. “You know, like when you flush the toilet and bacteria from inside it go into the air?”

“That’s actually a misnomer,” Gilbert pipes up from the back of the classroom. “Really?”

“Yeah. Doesn’t actually happen.”

“I’m glad to hear that.” But there is incredulity in her voice.

Gilbert again: “There are so many bacteria on all the surfaces anyway, that we find no more bacteria associated with human stool in the bathroom than we did in the kitchens of homes. When you flush your toilet, you do get aerosolization, but you’re shedding more microbes into your environment than your toilet is generating.” That news comes as less of a comfort.

The paper on architectural design raises other thorny questions, and, guided by Gilbert and Mark Welch, the class uncovers errors of procedure and analysis. “This is a great example of a paper where the authors had a really neat idea, and they went in and biased their entire interpretation,” Gilbert says. “This is an important thing: never color your vision. Take it where the data leads you, not where your impressions and biases lead you.”

Afterward, the group heads back downstairs, where Carryl has been working through the
“Never color your vision. Take it where the data leads you.”
—Jack Gilbert
rest of the students’ extracted DNA fragments, imaging everything in the ultraviolet lightbox. Most of the samples came through, she reports; a few did not. Some students will have to try re-extracting the DNA. “This is great,” says Gilbert, who feared that none of the DNA samples might work. Mark Welch concurs: “If this were a real experiment, you might spend multiple days optimizing this whole process”—the extraction, the polymerase chain reactions—“before doing it.”

“And when he says multiple days, he means 30 or 40,” Gilbert adds. He is almost laughing with delight.

Hey clamber out of the van in borrowed hip waders and rubber boots, chattering with nervous excitement, carrying tools they don’t quite know what to do with yet: shovels and buckets and heavy wood-framed sieves for sifting through the sand that suddenly lay before them on all sides. “All right,” calls Michael LaBarbera, UChicago biology professor emeritus, enunciating over the wind. “This is an exploration—anything you find out here is fair game.”

It’s a little past 1:30 on a Thursday afternoon, day four of LaBarbera’s course on marine invertebrates, and the tide is falling at Little Sippewissett salt marsh, on the jagged eastern shore of Buzzards Bay, a 10-minute drive from MBL. LaBarbera and his dozen students will spend the next couple of hours here, collecting live creatures to bring back to the lab to study and identify before returning most of them to the ocean a few days later.

Several students head first toward the beach; the rest turn inland, toward the heavy-husked marsh grasses and fingers of brackish water winding back toward the distant woods. LaBarbera goes inland too. He demonstrates how to dig under the sand, scoured clean by the current, to the muckier and darker soil just beneath. That’s where
they’d find many more of the worms and mussels and snails they are looking for. Plus the nemerteans and hydrozoans and polychaetes and anomurans on the list LaBarbera handed out the first day of class. “Keep taking samples, even if it seems like there isn’t much,” he says. “I think you’ll discover you’re getting more organisms than you think.”

He herds the students farther from the beach, deeper into the estuary, where they come upon colonies of fiddler crabs, slipping noiselessly into their burrows as soon as human shadows approach, and larger green crabs, an invasive species from Europe, LaBarbera explains, which came to America on the hulls of early 1800s ships.

One student reports gleefully that a handful of tiny clear shrimp jumped into her bucket when she stooped to fill it with water. Another reaches into the creek and lifts out an empty, translucent, perfectly intact shell, left behind by a molting crab. Another finds a baby horseshoe crab, barely a month old and smaller than a thumbnail. LaBarbera has never seen one so young and tiny. “Newly metamorphosed,” he says. He will come back in a few days to return it to this exact spot to give the crab its best chance of survival. “If it gets through this next year, this guy can live another 20 years. Some things just pull your heartstrings.”

By now it’s getting close to 3:45, when the van will return to haul the group and their buckets full of specimens back to MBL, where the students will stay in the lab long past the official 5:30 p.m. quitting time, until 9 or 10, combing through reference books and lists of species, looking for what they had found, putting names to the nameless. They’ll discover organisms in their buckets that they hadn’t realized they’d collected: sea snails as small as specks of dirt, a worm with a missing back end, an impossibly small anemone.

LaBarbera watches them wind their way toward the back of the estuary, bending to shovel and sift the sand, then wading on a little further. He doesn’t want to summon them back just yet. “The longer they’re out here,” he says, “the more they’ll see.” He wants them to see it all.

“You can view this as the male protecting his reproductive investment, or ... the only moment of romance in a blue crab’s life.”

—Michael LaBarbera

Someone finds a softshell blue crab. “Oh gosh!” The whole group comes splashing over. LaBarbera tells them the crabs often mate when females are molting—“partly because sperm transfer is more efficient then”—and afterward, the male will cradle the female in his legs, carrying her for the next 48 hours, while her new exoskeleton hardens. “Then they go their separate ways. You can view this as the male protecting his reproductive investment,” LaBarbera says, grinning slightly, “or you can view it as the only moment of romance in a blue crab’s life.”

Another find. A student wades over to LaBarbera, holding out what looks like a tiny ice cream cone, two inches long and thinner than a straw. “Oh!” he says. “Anybody know what this is?”

“It looks like an egg case!” the student guesses.

“Nope,” LaBarbera says. “It’s a tube. The animal inside it—see in there?—that’s a worm. And it constructs this out of sand.” Each tube is one grain thick, built piece by piece like a brick wall. “The most amazing structure you’ve ever seen,” LaBarbera says. “We’ll take it back to the lab and you can look at it under the scope.” The worm, meanwhile (a *Pectenaria*, though LaBarbera doesn’t give the name away—he wants the students to find it), is “astonishing,” he confides, after the others wade ahead. “It has these little chitin setae, these little hair-like structures that stick out the front, and they’re this brilliant golden color.” They look, he says, “like a golden beard.”
“The idea here was to have the students put everything together on their own, so they can understand not just what they’re measuring, but how.”

—Eric Schwartz

On the day before their last day at MBL, the students in neurobiologist Eric Schwartz’s course on proteins are huddled over microscopes and amplifiers and culture dishes, working to complete the laboratory projects begun barely 48 hours earlier—each one wound around a slightly different molecular mystery. Tomorrow afternoon, they’ll present their findings at an open house finale for the three September courses. The morning after that, they’ll all be en route back to Chicago.

In one of the closet-sized chambers at the back of the lab, a pair of students is sending different voltage pulses into a frog oocyte, an immature and unfertilized egg cell, to see whether the proteins they injected into its membrane would fluoresce. Minute and bead-like and nut-brown, the oocyte, attached to two glass electrodes and suspended in a beam of light, sits atop a microscope that the students built themselves. There are lenses and mirrors and a photodiode to measure how much light comes off the cell.

Three days ago, they hadn’t known how to assemble these parts into a working instrument. “It was kind of a steep learning curve,” says one student, a young man in shorts and glasses and a gray MBL hoodie. “More like learning skydiving than anything.” But now here he is, talking about the precise placement of the mirrors and the LED that will shine a light of a very specific wavelength, 470 nm—“very pure, very blue”—onto the oocyte. He explains that if the cell lights up then they’ll know that the protein they’ve injected was a genetically encoded voltage indicator: “The more voltage you put in, the more it fluoresces.”

The course, called Observing Proteins in Action: How to Design and Build Your Own Instruments, is really two courses, or maybe three. The students learn how to put together microscopes and amplifiers, after two weeks of lessons on optics and electronics. But they also learn the basics of proteins: how they function and influence the behavior of cells and organisms, how to isolate certain proteins and incorporate them into a cell membrane, how to monitor their activity, millisecond by millisecond.

Schwartz, a professor in the Department of Pharmacological and Physiological Sciences, coteaches the course with three UChicago colleagues from the Department of Biochemistry and Molecular Photography by Tom Kleindinst (top); photo courtesy MBL
Biology: Ana Correa, Francisco Bezanilla, and Eduardo Perozo. One of the guiding concepts for the syllabus, Schwartz says, is a simple not-so-simple question: “How do we know what we know?” The answer, or one answer, is instruments—like microscopes. But that’s not simple either. How scientists modify instruments determines what things they can discover. “It changes what we know,” said Schwartz, who first came to MBL as a medical student 50 years ago, when he spent two summers as a research assistant. “The idea here was to have the students put everything together on their own, so they can understand not just what they’re measuring, but how.”

In another little room off the lab, two young women, with their own hand-built microscope, are testing two potassium-blockers—they haven’t been told exactly what they are—to find out how the drugs work, by what mechanism they interfere with the oocyte’s potassium ion channel. The experiment involves sending voltage into the cell and reading the current that comes out. The students are watching to see how the bright green line on a graph on their laptop screen moves. “That’ll tell us what is being expressed in our frog egg with the RNA we inserted,” one student says. “That’s how we’ll know.”

In the building next door, two other students are sitting in the cool dark hum of the MBL’s electron microscope, its long white tower of lenses rising from the desktop like a smokestack, or a periscope. The previous day, the students isolated and purified ribosomes—the cellular factories where proteins are made—from E. coli, then stained them. Now, under the electron microscope, with the magnification dialed up to 100,000, then 150,000, then 200,000, the ribosomes spring onto the computer screen in crisp black and white, perfectly formed Tetris-like shapes frozen in a dark sea. “That’s beautiful,” says teaching assistant Michael Clark, an MD/PhD student in the Pritzker School of Medicine. “Oh my goodness. Good job, guys.”

Meanwhile, in the lab, the course’s only nonscience student—“I’m a humanities major,” she says, with a pleading laugh—is toiling away on a circuit to measure the dropping voltage across a very small area of a Venus flytrap after the plant’s trigger hairs are touched. “Because they’ve got these tiny hairs, right?” she explains. “And they’re super sensitive. And if you touch them, it triggers the opening of some ion channels, which will basically—see, one side of the cell membrane has more calcium than the other, and if you open the ion channels, the calcium floods in, and the water pressure in the plant goes way up, and the plant slams shut.”

Amid that furious rush, the voltage in the flytrap’s membrane shifts. “What I’m trying to measure is that change in voltage.” She adjusts her glasses and picks up a blue marker to draw an explanatory diagram in a notebook full of crossed-out diagrams (“This is like six drawings of the same circuit, all drawn in slightly different wrong ways.”). She’s been at this work for hours, cheerfully, patiently, arranging switches and resistors and capacitors and amplifiers and function generators on a breadboard—a unit for building a simple electronic circuit without requiring any soldering. When everything else is ready, an electrode connected to a pipette holder will carefully touch the trigger hairs and conduct the charge from the excited plant to the circuit. “It’s going to be a teeny tiny signal,” she says. “If I get any measurement at all, I’ll be pleased.”

Now dinnertime is approaching. It’s going to be a long night for all of them. But after three weeks, they know how to pace themselves. The humanities major glances up at the big round clock on the back wall. It would carry some of them into the morning. ✨
NINE WEEKS IN DAKAR

During winter quarter, the College offered a Study Abroad program in Dakar, Senegal—the westernmost city in West Africa—for the first time.

By Carrie Golus, AB’91, AM’93
Dinner in the Dabo household, where students Angela Ma, ’19, and Soulet Ali, ’20, stayed during the Dakar program. Some Senegalese families prefer to eat with forks, others with their hands.
What surprised you the most about Senegal?” François Richard wants to know.

It’s the seventh week of winter quarter. Richard, an associate professor of anthropology, is meeting most of the students in the Dakar: African Civilizations program for the first time. The program crams a yearlong civ sequence into a quarter, with a new professor every three weeks.

“The commitment to relaxation,” says third-year Jonathan Poilpré. On the weekend, his host family enjoys eating and sleeping. And that’s enough.

More answers: How sweet the food is. (In Senegal, some American candy bars and sodas are even sweeter than the originals.) How host families urge you to eat, and eat, and eat. “The intense exercise culture,” says third-year Jennifer Feng; at sunset, every piece of equipment on the exercise beach on the Corniche is being used.

Several students mention transportation: The chaotic traffic, the extreme calm in the face of near collisions. The use of landmarks to navigate, instead of maps and addresses.

“The prevalence of American media,” says fourth-year Christopher Walker (now AB’18). (One example: Black Panther had recently opened in Dakar, with alternating screenings of version originale and dubbed French.) “How people react when I say I’m from America,” says third-year Mary Blair. She had assumed everyone would understand that, as an African American, she was the descendant of slaves; then she met people who had no knowledge of the transatlantic slave trade.

Others talk about the Senegalese people: Their disarming warmth, their willingness to stop and help strangers. The open-door policy with neighbors. “I was surprised by how much I missed my host family,” says fourth-year Alan Yang (now AB’18), who just got back from a weekend trip. His “little brother,” a toddler, had hugged his legs as he was leaving. (Laughter, a chorus of “aww’s.”)

Richard first traveled to Senegal in 1999. He returned to do research for eight months, then again for two years. Since 2006 he’s spent two or three months a year here, doing historical research on farmers in the rural Siin province. His book Reluctant Landscapes: Historical Anthropologies of Political Experience in Siin, Senegal is forthcoming from UChicago Press. “I keep being surprised by Senegal,” he says, especially by the rapid development in the capital city of Dakar. “Over the last five years, the newness has been exponential.”

“My first time in Senegal, everything was surprising” says Gregory Valdespino, AM’16, history graduate student and teaching assistant for the course. This is his second trip. As a person who struggles to remember names, he’s amazed by the “deep roster of names” that Senegalese people can retain. “It’s both surprising and intimidating.”

While the professors have changed throughout the quarter, Valdespino has remained a constant. He’s the one students text if they need help with something: finding a doctor, applying for a visa to the Gambia, dealing with roaches at their homestay.

Richard passes around the syllabus. His course, Dakar: Colonial and Postcolonial Africa, covers the period from the mid-19th century until just after 1960. The students have civ in the morning; in the afternoon they take French or Wolof, the most commonly spoken indigenous language and lingua franca of Senegal. All classes are held at the West African Research Center (WARC), a small pleasant complex with a courtyard and a café serving Senegalese food at student prices.

The syllabus lists two field trips: a visit to the Musée Théodore Monod d’Art africain.
and a weekend excursion to the former colonial capital, Saint-Louis. (Mary Blair, whose hometown is St. Louis, Missouri, eventually started telling people she was from Chicago, because the real answer caused so much confusion.)


When Napoleon invaded Egypt in 1798, “the first important colonial invasion,” as Richard describes it, he brought scientists and historians as well as soldiers. Said was the first to suggest that their allegedly objective research was shaped by colonial assumptions. The argument may sound familiar now, but it was extremely provocative in the late 1970s: “A large section of academia didn’t want to hear it.” “And still don’t,” adds Valdespino.

When Napoleon invaded Egypt in 1798, “the first important colonial invasion,” as Richard describes it, he brought scientists and historians as well as soldiers. Said was the first to suggest that their allegedly objective research was shaped by colonial assumptions. The argument may sound familiar now, but it was extremely provocative in the late 1970s: “A large section of academia didn’t want to hear it.”

“People think they’re doing good, but they often do a lot of harm.”

Richard nods. “The entire development industry is founded on colonial premises,” he says. While some development efforts are useful, “the very idea that there’s a tiered hierarchy in the world, where the West swoops in, SWAT-style, to give assistance, is predicated on a colonial geography.”

Third-year Katrina Weinert was struck by Said’s argument that “the ability to produce knowledge is in itself a form of power,” she says. “I think that’s something we can even struggle with today, being here, studying Africa. That power dynamic is still something that we should be wrestling with.”

*François Richard, a historical anthropologist and archaeologist, recently shifted his research focus to French farmers who lived in Mexico in the 1800s.*
Adriana Gonzales, ’20, from Denver, wanted to study abroad in Ghana at age 15, but her family insisted she stay a bit closer to home. She spent a year in Italy instead.

“I love my host family,” says Adriana. “I am so... When I think about the fact that we only have three weeks, I get so sad.”

The students—wearing T-shirts, shorts, flip-flops, and other summer gear in February—sit on colorful plastic chairs in WARC’s courtyard. They’ve placed their lunch orders at the window of the small café; 10 minutes or so later, the freshly cooked food is brought out.

It took Adriana a while to figure out who everyone in her host family was. “The matriarch of the house is Maam, which is grandparent in Wolof,” she says. Maam’s husband died years ago; her three adult children and their families all live in the house. “The oldest son, Birran, sleeps upstairs on the second floor with his second wife, whose name is Kiné.”

One of the café workers brings Adriana an intensely purple beverage. It’s bissap, the national drink of Senegal, brewed from hibiscus flowers.

“He spends two days with the first wife”—who lives somewhere in Dakar, she’s not sure where—“and two days with the second wife. What’s expected of a husband with multiple wives is that he splits his time evenly,” she says.

“So I live on the second floor with Papa Birran and Mama Kiné.” Part of the second floor is rented to a Mauritanian family.

Maam lives on the first floor, along with her two younger children, Mama Adja and Tonton (Uncle) Amadou, and a gaggle of grandchildren. Fourth-year Hannah Walter (now AB’18) lives there too. Students were placed in host families in pairs, with one exception: third-year Naomi Weiner. (Having spent seven years in Brussels and a summer in Rwanda, she wasn’t tooazed.)

Adriana has built a particularly close relationship with Mama Adja and her daughter Mariama, who’s Adriana’s age. “Mama Kiné works a lot”—she’s the front desk manager at a luxury hotel downtown—“so I’ve spent a lot more time with Mama Adja.”

The entire family eats dinner together. “You can imagine it gets crowded.” A mat is spread on the ground in the courtyard, and a shared bowl of food set on it. Adults sit on low stools; if there aren’t enough, the younger children sit on the ground.

Before coming to Senegal, Adriana took an online Wolof course through Indiana University. She spoke French with her host family at first—she’s fluent in French, Italian, and Spanish and knows some Swahili—but switched to Wolof as her vocabulary grew.

A running joke is that the family will find her a Senegalese husband, but first she needs to learn how to cook.

“When it clicks, it clicks,” says Mariane Yade, programs and public relations officer at WARC, who arranges the host families. She put the UChicago students together in two nearby neighborhoods, Mermoz and Sacré-Coeur 3, so they could visit each other easily.

Yade often acts as a cultural translator. American students must have their own room, she informs prospective families. If there are two students, they need separate beds, which some families are surprised...
In WARC’s courtyard, students (left to right) Angela Ma, ’19; Katrina Weinert, ’20; Emily Tcheng, ’19; Quentin Dupouy, ’19; and Jainaha Srikumar, ’19, eat lunch between classes.

to hear. “No, no, no,” she says, “American students don’t share.”

The country is more than 95 percent Muslim. And while Senegalese people are famous for their tolerance (one widely cited example: Senegal’s first president, Léopold Sédar Senghor, was Catholic), students are expected to be respectful. “Don’t come home drunk or bring alcohol in,” says Yade. “Don’t go out too many times too late when they have to worry if you are safe.”

The handbook for the Senegal program, more than 50 pages long, includes a section prepared by WARC, spelling out other potential missteps. If you’re dating someone, for example, “love should not be demonstrated in front of your family members.” When the group first arrived, Valdespino held an additional closed-door orientation session, advising the students to clean up their social media if there was anything they didn’t want host families to see.

The African Civ program has no language requirement. Yade’s advice for students who don’t speak much French or Wolof: “Be very creative,” she says. “Become a mime or something.”

Without much of either language, Adriana’s housemate Hannah still found ways to connect. One night she cooked dinner: pasta Alfredo with mushrooms and spinach. The family had never eaten spinach; she bought it at a French supermarket. “They were joking that Grandma ate more of my meal than she usually does,” Hannah says. “Papa Birran was like, you have to cook tomorrow so we fatten her up.”
One of the articles assigned for day three of Richard’s class, “Circle of Iron: African Colonial Employees and the Interpretation of Colonial Rule in French West Africa,” was written by Emily Lynn Osborn, associate professor of history and director of the Dakar program. It’s one of the most frequently cited articles from the *Journal of African History*, Richard says offhandedly. The students look suitably impressed.


When her three-week teaching stint was over, Osborn remained in Senegal to oversee the program and work on her current book project, which focuses on aluminum casting. After World War II, the technique of aluminum casting—melting down scrap aluminum to make pots, spoons, even bicycle and car parts—spread through West Africa. Osborn is interested not only in the informal economy but also the migration of peoples and ideas.

Photography by Allan Lake

She first visited Africa at age 7; her brother was in the Peace Corps in Sierra Leone. “That trip definitely made an imprint upon me,” Osborn says—so much so that she’s brought her own three children to Africa at around the same age. In high school she did an exchange program in Côte d’Ivoire; in college she studied for a year at Université Cheikh Anta Diop de Dakar.

It was Osborn who developed the movie-like structure for the African Civ program: a look at contemporary Senegal (which she taught), a flashback to the precolonial era (taught by archaeology professor Ibrahima Thiaw of the Université Cheikh Anta Diop), then the dramatic conclusion, colonialism to independence (taught by Richard).

During her three-week block, she covered “everything from architecture to religion to politics,” she says. “I wanted to ground the students in their daily life in Senegal.” On the second day of class, the students, working in teams, had to pick a destination, figure out how to get there, and give a presentation the next day.

Osborn also assigned students to make a Senegalese family tree. Some discovered their host families had members in Spain, Germany, Alaska. Others encountered...
Allan Lake, ’19, shot this photo of soccer players on the Plage de Yoff, a beach north of Dakar. Soccer players in Senegal often practice on sand, Lake says, so they have more agility and speed when playing on grass.

touchy topics: a prior marriage, a first wife. “But by and large, it endeared the families to the students and vice versa.”

Students come to the program from a mix of majors—economics, sociology, political science, art history—and their projects for Osborn’s class reflected that. A sampling: utilities and inequality, mental-health care, Senegalese singer Youssou N’Dour, illegal and unregulated fishing, career aspirations for the upper class, politics and graffiti art, portrayed in elevated positions—on an upper balcony, on a raised platform—and bathed in light, while the slaves would be in shadow.

At the National Archives of Senegal in Dakar, she trawled through hundreds of handwritten census records. She found an 1844 record for the household of Anna Colas Pépin, featured in a portrait made just a few years later. Anna Colas Pépin lived in the house now known as the Maison des Esclaves (House of Slaves), a museum to the slave trade on nearby Gorée Island. Just like the signare portraits, the census records are strictly delineated: at the top are free people, listed with both first and last names; underneath are slaves, with first names only.

“The slave trade had been abolished, but slavery was still legal,” says Katrina. The document she found was both “this amazing record of people’s lives and a definitive reminder that slavery was still happening.” Osborn was so impressed, she advised Katrina to submit the paper to African Arts, a peer-reviewed academic journal.

Katrina Weinert, a third-year majoring in public policy and comparative race and ethnic studies, did her research on portraits of signares, women of mixed French and African ancestry during the 18th and 19th centuries.

“A lot of the academic literature romanticizes signares as these beautiful, powerful women,” says Katrina, while ignoring the domestic slaves who also appear in the portraits. She noticed that signares were often portrayed in elevated positions—on an upper balcony, on a raised platform—and bathed in light, while the slaves would be in shadow.

At the National Archives of Senegal in Dakar, she trawled through hundreds of handwritten census records. She found an 1844 record for the household of Anna Colas Pépin, featured in a portrait made just a few years later. Anna Colas Pépin lived in the house now known as the Maison des Esclaves (House of Slaves), a museum to the slave trade on nearby Gorée Island. Just like the signare portraits, the census records are strictly delineated: at the top are free people, listed with both first and last names; underneath are slaves, with first names only.

“The slave trade had been abolished, but slavery was still legal,” says Katrina. The document she found was both “this amazing record of people’s lives and a definitive reminder that slavery was still happening.” Osborn was so impressed, she advised Katrina to submit the paper to African Arts, a peer-reviewed academic journal.

Katrina Weinert, a third-year majoring in public policy and comparative race and ethnic studies, did her research on portraits of signares, women of mixed French and African ancestry during the 18th and 19th centuries.

“A lot of the academic literature romanticizes signares as these beautiful, powerful women,” says Katrina, while ignoring the domestic slaves who also appear in the portraits. She noticed that signares were often portrayed in elevated positions—on an upper balcony, on a raised platform—and bathed in light, while the slaves would be in shadow.

At the National Archives of Senegal in Dakar, she trawled through hundreds of handwritten census records. She found an 1844 record for the household of Anna Colas Pépin, featured in a portrait made just a few years later. Anna Colas Pépin lived in the house now known as the Maison des Esclaves (House of Slaves), a museum to the slave trade on nearby Gorée Island. Just like the signare portraits, the census records are strictly delineated: at the top are free people, listed with both first and last names; underneath are slaves, with first names only.

“The slave trade had been abolished, but slavery was still legal,” says Katrina. The document she found was both “this amazing record of people’s lives and a definitive reminder that slavery was still happening.” Osborn was so impressed, she advised Katrina to submit the paper to African Arts, a peer-reviewed academic journal.
This Friday’s field trip is to the Théodore Monod museum, “a grand colonial structure with a fusty collection of traditional art,” as Artforum magazine has described it.

The museum was named for Monod, a French polymath, Richard tells the students. The bulk of its collection was gathered in the 1930s, during the Dakar-Djibouti mission, a famous expedition led by French ethnographer Marcel Griaule. “At every stop they collected and bought and stole various objects,” Richard says. “There’s a lot of shadiness around the acquisition.”

Richard and Valdespino mill around the small museum, chatting with the students as they examine masks, sculptures, drums. The objects are identified by ethnic group, a problematic concept that Richard has been exploring in class. Colonial states “crystallized ethnicity as a fact of identity,” he says, “in ways that are more rigid than how ethnicity was lived or understood prior to colonial intervention.”

The second floor of the museum holds a temporary exhibit of textiles. “Look at the way they’re exhibited,” Richard says. “Are artists identified individually?” (They are not.) “It’s a reflection of the colonial mind.”

The museum primarily caters to tourists and school groups; ordinary Senegalese people are not interested in it. For one thing, the labels are in French. It’s Senegal’s official language but spoken mostly by the educated elite. “There’s a complicity between ethnography and colonialism that doesn’t stop with independence,” Valdespino says. “How do museums decolonize? Can they?”

Richard tells a cluster of students about the Musée du quai Branly in Paris, a “hyper-flashy” museum of indigenous art. The objects there were chosen for their aesthetic appearance, rather than their significance for the people who created and used them. “Once they’re taken out of context, there’s only so much you can say,” he says. “Aesthetics is trumping information. Calling it ‘art’—there’s no concept of art for art’s sake in many African societies. What kind of violence is done by calling it art?”
It’s a typical Saturday night in the Dabo household, where second-year Soulet Ali and third-year Angela Ma are staying. Their host parents are sitting in the living room in deep, comfortable leather chairs, watching Senegalese wrestling. “Oh, he’s my favorite!” Soulet says when wrestler Abdou Diouf comes on screen. Amy, their host mother, has cloth on her hands and feet; she’s just had henna patterns done and the dye isn’t set yet.

At first neither Soulet nor Angela could speak French or Wolof. And the Dabo parents don’t know English. When Angela arrived, she tried to ask host father Mamadou, a retired teacher, what he used to teach. He thought she was asking for another table in her bedroom. The sitcom-like confusion took a while to straighten out.

Luckily both of their college-age children, Adja and Papi, speak excellent English. (Neither one was home during the teaching/table incident.) Soulet helps Adja with her English homework, and in return Adja helps Soulet with her Wolof. “We’re very close,” says Soulet. “I’m fairly positive I’m going to know her for the rest of my life.”

Dinner this evening is spicy chicken on a bed of caramelized onions, with French fries added around the edge. The young people eat at a coffee table in the entryway, chatting in a mix of French, Wolof, and English. Adja points out that a Senegalese artist, Baaba Maal, sings on the Black Panther soundtrack. Soulet says it’s one of the best superhero movies she’s ever seen.

The older members of the family—including oldest daughter Beebap, who arrives with her husband and their four-month-old daughter—eat in the living room, in front of the TV. When everyone is finished, the food is gathered up and taken away, then a tray of juice drinks is brought out.

Papi carries a portable gas canister into the entryway and boils water for attaya, strong, sweet Senegalese tea. Adja and Soulet tease him about how sweet he makes it: “It’s not attaya avec sucre,” Soulet says, attaya with sugar. “It’s sucre avec attaya.” He pours the boiling tea back and forth, from one tiny glass to the other, until it foams. It’s dangerous. And delicious.

Angela, Soulet, and Adja have plans to go to a dance party, ElectrAfrique. Angela looks exhausted; at one point, she rests her head on Soulet’s shoulder. But she doesn’t want to stay in. It’s their last weekend in Dakar; there are trips planned for the other weekends. She wants to make the most of it.

Back in Chicago near the end of spring quarter, Mary is still processing her Senegal experience. “A lot of black Americans imagine Africa as this homeland, where you’ll be welcomed with open arms,” she says. “I don’t think I was necessarily disillusioned. But I had to challenge myself to understand what the experience of blackness is globally.”

In Saint-Louis, for example, the owner of a shop invited her to have tea. There had been a number of required readings about métis—people of mixed race—in Saint-Louis. So Mary asked, “Are you métis?” His response: “Yeah, like you.” She breaks into laughter at the memory. “In America I’m definitely considered on the darker end of the spectrum.” In Senegal, she was not.

“I do think I came back to the States a different person,” she says. “It’s hard to explain. I’m more comfortable as I navigate the world, more confident in my voice intellectually.”

For Adriana, the experience made her change her major: she dropped sociology for a double major in anthropology and comparative race and ethnic studies. She realized she prefers an ethnographic approach to research: “I love that human aspect of talking to people.”

She uses WhatsApp to chat with Mama Adja two or three times a week, mostly in Wolof. She has had to break the Senegalese habit of eating with her hands.

When asked, “How was Senegal?” or “How was study abroad?” Adriana doesn’t have much of an answer. “It was great! I loved it!” is her typical nonresponse. It’s a trip she’s been dreaming of—and preparing for—since high school, when she started taking French so she could travel to West Africa someday. “It’s difficult to be more specific,” she says. “I can’t express how much it meant to me.”
Awa Gueye, who was born in the Ivory Coast and grew up in Senegal, cooked her first dish at age 9: *chere*, couscous made from millet, with lamb and vegetables. Her aunt, who taught her, “was very proud,” she says.

She and her husband, Madieye, from the town of Louga in northwest Senegal, came to the United States in 1990. Whenever they had friends over, their guests raved about Awa’s cooking and asked why she didn’t have her own restaurant.

In 2004 the Gueyes opened Yassa—named after a spicy onion-based sauce—on 79th Street in Chatham. It was the first Senegalese restaurant in Chicago, and Chicagoans weren’t ready. Madieye, whose background is in economics, knew the most important thing was “location, location, location,” he says. “I thought that African Americans and Africans would be my target. But on 79th Street, people around there did not understand my food.”

By 2007 the restaurant was on the verge of closing. Then *Check, Please!* a WTTW Chicago restaurant show, came to visit. As Madieye tells it, the episode featuring Yassa aired at 8 p.m. By 8:15 every table was full and people were lining up outside. Yassa, which has since been featured in the *Chicago Tribune*, the *Reader*, *Time Out*, and on CNN, moved to 35th and King Drive in Bronzeville four years ago.

—Carrie Golus, AB’91, AM’93

There’s no one way to spell the national dish of Senegal. On Yassa’s menu, it’s listed as *tiebu djeun* (pronounced cheh-boo jen, Wolof for fish with rice), but you’ll also find *ceebu jën*, *thiebou jen*, *thiéboudiène*, and on and on.

When the Core arrived at Yassa, Awa had already steamed the rice and prepared the tomato sauce that gives *tiebu djeun* its complex flavor. While the sauce was reducing, she stuffed pieces of fish—she used tilapia and red snapper—with a paste made from parsley, garlic, and red and black pepper. She added chunks of cabbage, eggplant, cauliflower, and carrots to the sauce, then later the stuffed fish. Yucca, okra, and whole habanero peppers went in last.

When the vegetables and fish were done, Awa carefully removed them, then cooked the rice in the rich tomato sauce. To serve, she spread the rice on a plate and arranged the vegetables and fish on top. She will also serve it Senegalese-style in a large shared bowl by request: “Sometimes people want it that way if they’ve been in the Peace Corps.”

Read about the College’s new African Civilizations program in Senegal on page 22.
As a poet who writes about religious themes, “you’re hopelessly obscure,” says Peter O’Leary, AB’90 (English), AM’94, PhD’99 (Divinity School), a Catholic. “Poetry already is so obscure. How could I make myself more obscure?”

O’Leary, who teaches at UChicago and the School of the Art Institute, has published five books of poetry and five chapbooks. His most recent book is the essay collection Thick and Dazzling Darkness: Religious Poetry in a Secular Age (Columbia University Press, 2018), which argues for the importance of religious poetry in American literature.

How and when did you start writing poetry?

I was completely immersed, saturated, in progressive rock as a teenager. The two bands that were the most important to me were the Canadian power trio Rush and the British prog rock outfit Yes. I was basically writing lyrics for a band that didn’t exist.

Has religion always been a theme?

Always. The other thing that I was strongly, deeply involved with in my teenage years was science fiction and fantasy literature. Religion is an ongoing engagement in fantasy literature.

Why study at the Div School?

I had a very strong but unformed conviction about the need to heed the vocation of poetry. I needed
That most of poetry writing happens on your own. You can go to school to learn some stuff, you can have people that you love to talk to about poetry, but when it comes down to it, it’s you and the blank page.

The most important thing was he took me seriously. That letter initiated a correspondence that lasted five or six years until Johnson died. That period really constituted my initiation into poetry—I felt that my petition had been accepted. It was the most significant learning experience and probably creative experience of my life. [O’Leary is now Johnson’s literary executor.]

What is it like to write religious poetry in our time and culture?

I was recently telling Chicu Reddy [associate professor of English and creative writing] about a long poem I’m writing about astrology and the horoscope. He said, So it’s ironic? And I said no.

Any Renaissance scholar would have known his horoscope cold. That would have been one of the most complete ways of understanding your place in the cosmos. And Chicu said—he was being very sweet about it—So you’re writing the most unfashionable possible poem you could write. That basically has been my career.

So that’s one side, hopeless obscurity. But because of the nature of my work, I’ve had the chance to present it to nonacademic audiences. I’ve gone on church retreat weekends—I’ve been the invited poet. Most people love literature, and they love to talk about metaphor, especially when it comes to their faith lives.

Do you have any writing rituals?

I have a study, which I have not learned an incredible amount.

In addition to studying literature in this cryptoreligious sense, I just acquired an apprenticeship, but decided—for reasons that were similarly unformed—that I did not want to get a creative writing degree. The Divinity School seemed like a place I could do that.

I unexpectedly discovered there was a great deal more there for me. In addition to studying literature, I could do that. I’ve had the chance to present it to nonacademic audiences. I’ve gone on church retreat weekends—I’ve been the invited poet. Most people love literature, and they love to talk about metaphor, especially when it comes to their faith lives.

In 1992 you wrote to the poet Ronald Johnson (1935–98) for advice, and he sent back a two-page letter. What did he tell you?

That most of poetry writing happens on your own. You can go to school to learn some stuff, you can have people that you love to talk to about poetry, but when it comes down to it, it’s you and the blank page.

The most important thing was he took me seriously. That letter initiated a correspondence that lasted five or six years until Johnson died. That period really constituted my initiation into poetry—I felt that my petition had been accepted. It was the most significant learning experience and probably creative experience of my life. [O’Leary is now Johnson’s literary executor.]

In your most recent book, Thick and Dazzling Darkness, you write about having periods of religious doubt. Does that come into your work?

Not in any autobiographical sense. It does come into the work thematically in that I’m interested in bewilderment. Bewilderment is a crucial part of religious experience.

My experience is that faith is sometimes really intense and sometimes on a low flame. The thing that modifies that for me is participation in ritual. I’m a churchgoer. And for 20 years or so, I’ve had a daily prayer practice that involves recitation of the Jesus Prayer: “Lord Jesus Christ, have mercy on me.” You regulate your breathing connected to it, so it’s very similar to contemplative prayer practices in many other traditions.

There’s a J. D. Salinger short story about it.

Exactly: “Franny.” Like many people, that was my first encounter with that prayer. I love that story. It’s unimprovable.

—Peter O’Leary, AB’90, AM’94, PhD’99

“Bewilderment is a crucial part of religious experience.”

—Peter O’Leary, AB’90, AM’94, PhD’99

Poetry is one of the art forms whose technology has changed very little. We can do what we do almost anywhere. I strongly encourage my students to use little pocket notebooks. I don’t discourage them from using their phones, that’s fine. But I do want them to think a great deal about their process and to print things out.

Paper is so far the best data storage technology that humans have invented. If you have paper copies of your drafts, you can always go back. There may be a chunk of something you don’t use, but six months later, six years later, you’ll use it. It’s the compost pile midden heap.
Poem

The Rosetta Stone for Birdcalls

Peter O’Leary, AB’90, AM’94, PhD’99

is the Rosetta Stone for Human Suffering. Caw = territorial outrage. Musical flutings upwards = the days of summer are always declining. Peep = hunger. Barrage of chirps = desperate hunger. Who? = the nest has been abandoned. Varied pipings = I surrender my eggs to a predator. Grates & rusty noises = the distance between us can only be managed by violence. Trill = inadequacy of desire. Low whistles = difficulties with lice, with bacteria, with fungus, etc.

No such stone ever hewn would translate lightning or torrent a million years elicits. No such stone would bear the incisions of the master’s awl. Such a stone would serve instead as instruction manual for building pyramids & museums.

When the accipiter in its suicidal plummet snatches the finch, what instrument measures the strum of the vibrating airs? Who sees the God who plucks this lute?

O’Leary, a visiting faculty member in creative writing, teaches classes on poetry, science fiction, fantasy, epigrams and spells, the long poem, Ezra Pound and Basil Bunting, and the myth of Orpheus.

Reprinted from Depth Theology by Peter O’Leary. Copyright © 2006 by Peter O’Leary. With permission of the publisher, University of Georgia Press. All rights reserved.
Comic

By Grant Snider
“The only true voyage of discovery, the only fountain of Eternal Youth, would be not to visit strange lands but to possess other eyes.”

—Marcel Proust, In Search of Lost Time