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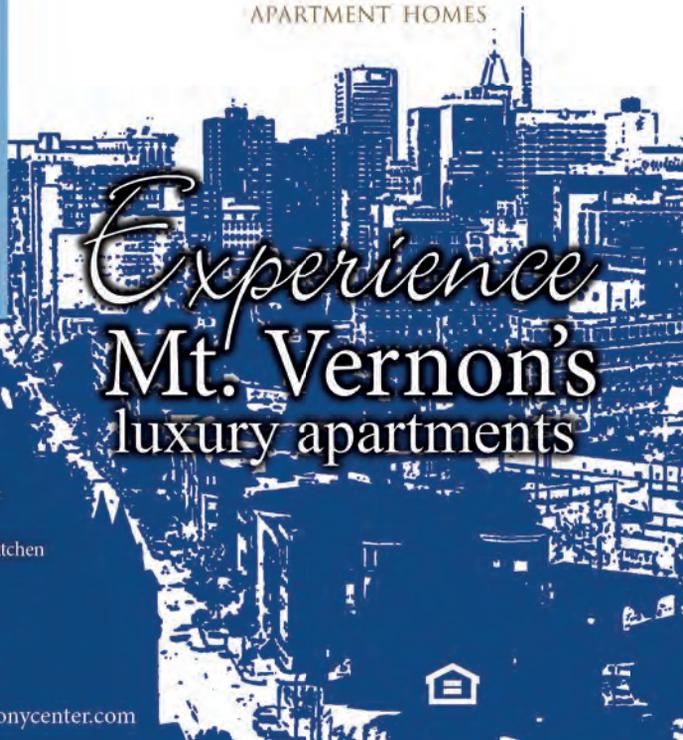


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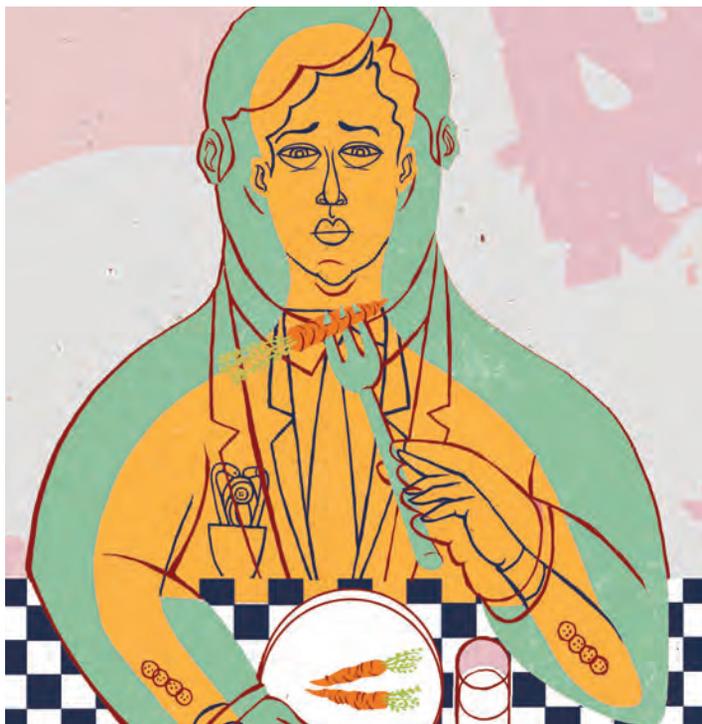
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**Elizabeth Evitts Dickinson**

("Guns Kill Cops," p. 22) has written articles, essays, and fiction for *The New York Times*, *Slate*, *Metropolis*, *Architect*, and *Little Patuxent Review*, among others. She is a 2013 recipient of the Individual Artist Award in Fiction from the Maryland State Arts Council.

**Stacy Zarin-Goldberg**

("Empty Nest," p. 36) is a D.C.-based photographer whose work appears regularly in *Baltimore* magazine, *The Washington Post Magazine*, *Washingtonian*, *Bethesda Magazine*, and others.

**Rachel Stewart Johnson**

("Empty Nest," p. 36) has a PhD in developmental psychology from Stanford University and is a former lecturer in human development and psychology at the University of California, San Diego. She has written for health care companies, *Pomona College Magazine*, and *University of Denver Magazine*.

**Linda Zacks** ("Publish or Perish," illustration, p. 50) is an award-winning artist and designer living in Brooklyn. She was previously design director for VH1.com and has worked independently with Sony Style, Adobe, and INQ Mobile, among others.

**David Fullarton**

("Their Kind of Town," illustration, p. 73), born in Scotland and based in San Francisco, combines images with words to create humorous illustrations. His clients have included the *Los Angeles Times*, *The Boston Globe*, *The Washington Post*, *Mother Jones*, and Yahoo.

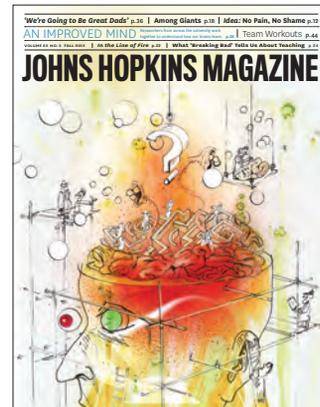
**Kati Woronka**

("Trauma's Toll," p. 80), A&S '99, Ed '00 (MAT), is the author of *Dreams in the Medina*, a novel about Syrian women based on her four-year experience living and working in that country. After spending time in more than a dozen countries, she has settled in London, where she teaches international development.

**On the cover**

**Simon Spilsbury** is an award-winning

U.K.-based illustrator whose specialty, he says, is "finding absurdity in the minutiae of life." For the past 16 years, he has tackled everything from newspaper illustrations to multimedia ad campaigns for clients like Nike, Virgin, *The Sunday Times*, *The Guardian*, and others. An art director once said of his work, "Spilsbury's drawings always jump off the page and bite me on the ass." We think, however, the illustrator's cover art gets inside our heads.



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### Maybe it's the love of the game.

Is that what sends a person out to the fields day after day, month after month? Perhaps it's a perfectionist streak that drives someone to practice something over and over until it's exactly right. Or maybe it's just a good excuse to get out of the office.

A year ago, Associate Editor Dale Keiger proposed a project to photograph every Johns Hopkins varsity team at practice. In addition to being a terrific writer, Dale is a talented shutterbug whose pictures have occasionally appeared in the magazine. For this undertaking, he attended at least one—but usually two or three—practice sessions for each of the 22 teams playing 14 sports. He estimates that he took 25,000 photographs.

“Whenever I write about scientists and artists, I’m always interested in their process, and it’s no different with athletes and coaches,” Dale told me. “In sports, the process is practice. In a way, it was relearning that part of what’s fun to me about practice is that’s when the coaches are working the most closely with the athletes. At a game, players just look fast, athletic, often violent. But at practice, you see the coaches work on details down to moving a left foot six inches when you’re throwing a block. It impresses me how much a good athlete knows and the attention to detail.

“It was great fun,” he says. “My one regret is that I missed the track team doing yoga.”

If you enjoy “Sweat Equity” (page 44), be sure to visit [hub.jhu.edu/magazine](http://hub.jhu.edu/magazine) for our “Grimace Gallery” slideshow.



EDITOR Catherine Pierre

**Error in ‘In Error’**

In the article “In Error” [Evidence, Summer], you implied that malpractice costs are not a major factor in health care costs. You are correct that payouts of \$1 million or more represent less than 1 percent of United States health care costs, but that is not the issue. The cost of malpractice litigation to the health care system is the cost of defense, as measured by the insurance premiums paid by hospitals, nursing homes, and physicians, as well as the cost of defensive medicine.

According to the American Academy of Orthopaedic Surgeons, one-sixth of the approximately 650,000 practicing orthopedic surgeons in the United States report a medical liability claim annually—that is more than 100,000 doctors a year. In Washington, D.C., my insurance premium was more than \$60,000 annually. The premium costs are the costs of defense. Since 74 percent of claims are closed without payments, the payouts make up only a small fraction of the costs of medical liability.

According to PIAA (formerly called Physician Insurers Association of America), the average cost to defend a case that does not go to court is approximately \$39,000. The total cost of defense of physician cases in the United States was \$3.7 billion for the last 10 years. And that figure does not account for unnecessary tests done for defensive medicine.

Medical liability does play a significant role in national medical expenditures.

**James C. Cobey, Med '69, SPH '71**  
Washington, D.C.

**Grace Lippy and Rachel Carson never met again, but Lippy was not at all surprised by Carson’s later scientific and literary success.**

**True Heroines**

While I emphatically disagree with the demeaning reinterpretation of Rachel Carson’s scientific ability and scholarship put forth in “Right Fish, Wrong Pond” [Summer], this letter specifically addresses the claim that Carson made no significant friends during her student days.

In 1930, Carson was assigned to assist Grace E. Lippy, A&S '26 (MA), in teaching basic zoology for the Johns Hopkins University summer school. Six years older than Carson, Lippy was a doctoral student and the only woman appointed as instructor in zoology during the Depression. Carson served as Lippy’s teaching assistant for the next four summers. Lippy taught the course for 11 years.

Unlike Carson, who was forced to drop out of the doctoral program because of financial issues, Lippy left because she found full-time academic employment. She joined the faculty at Hood College in Frederick, Maryland, as assistant professor of zoology in 1933 and retired with the rank of associate professor in 1967. She died in 1994 at age 97.

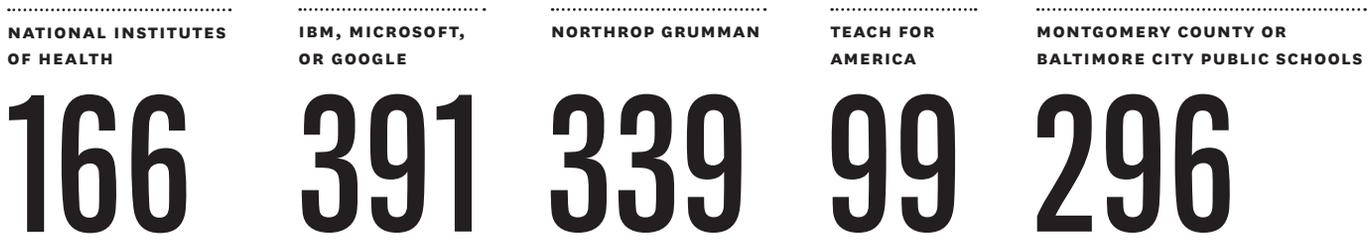
Carson and Lippy came from similarly impecunious family circumstances, and both attended women’s colleges as undergraduates. Lippy became a regular Sunday dinner guest at the Carsons’ home. The two women roomed together in Woods Hole, Massachusetts, during the summer of 1932 when they were both named “investigators” at the Marine Biological Laboratory.

Lippy later recalled Carson as “very quiet, not much fun, and without much sense of humor.” But she admired Carson, whom she described as an “avaricious reader” who was “always extremely well-prepared.”

Grace Lippy and Rachel Carson never met again, but Lippy was not at all surprised by Carson’s later scientific and literary success. She regarded Carson as “one of the nation’s true heroines” and was enormously proud to have been her friend.

**Linda Lear**  
Author of *Rachel Carson: Witness for Nature*  
Bethesda, Maryland

**A sampling of where some of the Johns Hopkins-educated LinkedIn users work:**



## Don't 'Like'

Normally, I enjoy reading cover to cover each *Johns Hopkins Magazine*. It was with great dismay that I saw in your Spring issue that you used an opportunity, in the article "Facebook Follies" [Dialogue], to post a submission mocking those Christians that support creationism theory and those on the right of the political spectrum who support former Alaska Governor Sarah Palin and Congresswoman Michele Bachmann.

In the same issue, I found it interesting to read in the boilerplate section [Masthead] that this magazine supports the presentation of diverse views. Really? If so, how often would one see similar cheap shots taken in this magazine against positions supported by those on the left?

A bit of advice: Keep the focus of your magazine fair and balanced.

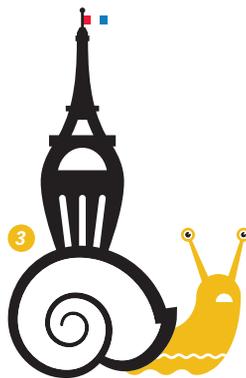
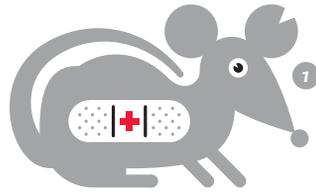
Vance A. Brahosky, Engr '02 (MS)  
Springfield, Virginia

Others of us (myself very much among them, and secretly terrified) might not yet know what we were going to do next, and to us, he had this utterly unexpected thing to say: "Hang loose. You'll find your way."

## 'Hang Loose'

I was oddly shocked and sad to read about the death of former Johns Hopkins President Steven Muller ["In Memoriam," Spring]. I say "oddly," not because there's no reason to mourn the man but because he was not exactly one of those hippie liberal arts college presidents who had open

**We know what you did last summer. We asked about the coolest thing you planned on doing over the summer. Some of your responses:**



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4 Learning to ride a unicycle   5 Interning in Hollywood for Neil deGrasse Tyson

office hours or told you to call him Steve. We undergraduates shook his hand exactly twice: once during freshman orientation week and again onstage at graduation. He was a distant bureaucrat and fundraiser known primarily for his preternatural tan and an unverified but persistent rumor that he played one of the von Trapp children in *The Sound of Music*.

And yet, as far as I know, he said the only thing outside of David Foster Wallace's now-famous Kenyon College address that anyone has ever remembered any speaker at any graduation ceremony saying. At my commencement address in 1988, he said that he knew some of us already had post-graduation plans. Others of us (myself very much among them, and secretly

terrified) might not yet know what we were going to do next, and to us, he had this utterly unexpected thing to say (and I'm quoting verbatim): "Hang loose. You'll find your way." Coming from someone who seemed to us like the living embodiment of The Man, it was surprisingly reassuring.

It took me longer than I'd expected and a number of extended detours, but I did, eventually, find my way. Wherever he is, I hope the Man with the Tan is hanging loose.

Tim Kreider, A&S '88  
New York, New York

### CORRECTION:

"Principles and Practice of Friendship" [Alumni News and Notes, Summer] incorrectly identified the board on which Barry Strauch serves. He serves on the board of Johns Hopkins Medicine.



ILLUSTRATION BY ANTHONY FREDA

# Long Distance Training

Bret McCabe

*Obesity trends in the United States make personal trainer Deborah Weathersby, A&S '94, shake her head. According to the Centers for Disease Control and Prevention, as of 2010, more than one-third of adults and nearly 17 percent of youth are obese. The CDC also reports more than three-quarters of the country's health care costs are due to chronic diseases such as heart disease, diabetes, cancer, or arthritis, all of which can be prevented or minimized by eating right and exercising regularly. But while the U.S. fitness industry generated more than \$21 billion in revenue in 2012, it's an industry supported by only about 16 percent of the population. Surely there's a way to provide the health and quality-of-life benefits of exercise to a larger portion of the population.*

## Context

"I was getting really frustrated with every corporate gym that I've worked at where it's like *Glengarry Glen Ross* selling techniques," says Weathersby, who has been in the fitness business for 20 years. Being pushed to your physical limits by an overenthusiastically motivated trainer might work for committed gym rats, but it's less successful for people who aren't already in shape. According to fitness consultant Thomas Kulp, the industry neglects to create an environment that reaches people who are overweight or out of shape. "Instead, we decided that fitness was something to offer only the fit," he wrote in the June 2011 issue of *Club Industry*, an online magazine for fitness professionals.

## Data

The International Health, Racquet and Sportsclub Association reports a steady annual increase in fitness club and gym memberships, from 24.1 million in 1995 to 50.2 million in 2012. Less clear is the number of those people who joined a gym and stayed. In the association's "2007 Guide to Membership Retention," a former IHRSA executive director wrote that "membership retention for commercial fitness facilities had always been a subordinate objective" to profitability.

"In any other business," Weathersby says, "if you're only selling to the people who are already buying your product, something's wrong. Gyms are not picking up that there's a giant market out there, but it means that you have to change how you approach it in order to attract those people."

## Upshot

Having worked with sponsored endurance athletes before, Weathersby has seen successful distance-training programs that enabled, say, a triathlete in

San Diego to train with a coach in Vermont. But those programs used expensive, proprietary software. Could the same approach work to offer regular people directed, individualized, and less-expensive distance training—using video chat programs such as Skype or FaceTime and a project manager like Basecamp?

One of Weathersby's first clients for her new model was a woman who wanted to lose weight for her wedding but couldn't stick to an exercise program. During her initial consult, the client explained that she hated feeling so sore that she couldn't move for days afterward—a fact that Weathersby incorporated into her individualized workout plan: The client needed to be pushed just enough to feel something but not to the point of exhaustion. "She just loved it," Weathersby says, adding that the woman started losing a pound a week with the plan. "She says, 'This is the best thing that's ever happened to me. I can do it in my house, it's not intimidating, nobody has to see me, and I don't have to add another errand to my day.'"

### Conclusion

Weathersby's online personal training business, Victory Fitness, has been up and running since May and has 12 clients. And Weathersby would like to see this model take off. "Of course I want my company to succeed, but what I really want is for the fitness industry to change," she says. "I go to these conventions and they're teaching the same [ideas about how to recruit new members] that they've done for years. They're talking to people who already love fitness and want to feel amped up and pushed to their limits. And I think the goal needs to change. The goal needs to be to reach out to people, find out what their goals are, and help them reach them."

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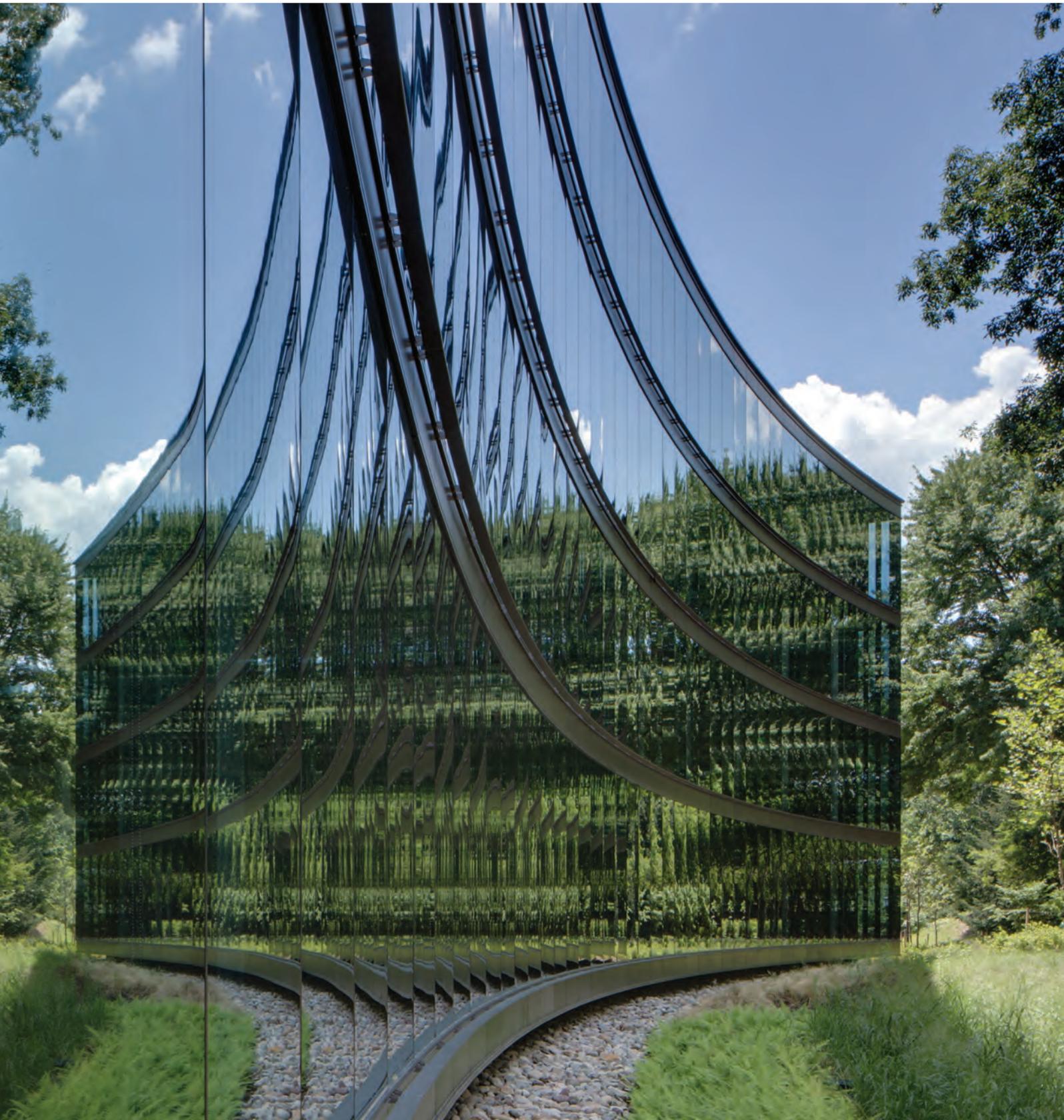




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**BUILDING BRIDGES** “Everything we know about innovation tells us the opportunity to talk shop in a setting that promotes easy interchange is critical to discovery,” says Katherine Newman, dean of the Krieger School of Arts and Sciences. With 20 teaching labs and a commons area featuring rocking

chairs, the new Undergraduate Teaching Laboratories on the Homewood campus certainly inspires conversation. The facility will bring together undergraduate labs and faculty from five scientific disciplines. **Jeanette Der Bedrosian, photograph by Karl Connolly**



## At a Glance

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### FILM

Documenting the Soviet Fall

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Guns Kill Cops

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Personalizing School

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### POP CULTURE

(Breaking) Bad Teacher

# 1

## FILM

### Documenting the Soviet Fall

Brennen Jensen

In 1974, Alexander Shatravka and his brother Mikhail, both in their 20s, were caught trying to defect from the Soviet Union. Punishment was an involuntary stay at a psychiatric hospital where they were heavily dosed with debilitating drugs. More than 30 years later, author-turned-filmmaker David Satter had a camera rolling when Alexander was reunited with one of the nurses who administered the torturous chemicals. In the footage, the now-aged woman calls the drugs “completely harmless.” Shatravka counters that his brother’s health was destroyed at the hospital and his death linked to the pharmaceutical abuses. The silence that follows is awkward and heartbreaking. In the end, he gives her stooped shoulders a brief hug of forgiveness.

This scene between two scarred souls is one of the many poignant moments that make up Satter’s documentary *Age of Delirium: The Decline and Fall of the Soviet Union*, which won a Grand Jury Prize at this year’s Amsterdam Film Festival and is based largely on his 1996 book of the same title, with some new reporting. Satter, a Foreign Policy Institute fellow at the Paul H. Nitze School of Advanced International Studies, lived in the Soviet Union between 1976 and 1982 as a reporter for the London *Financial Times*. His focus in the film is rank-and-file citizens who became disillusioned with the Soviet system: a miner hounded by the KGB for complaining

about working conditions, Afghan war veterans pressured to keep silent about their harrowing experiences, Ukrainian women recounting the mass starvation and even cannibalism that occurred in their village after Soviet officials took all their grain to Russia.

The vivid vignettes reveal the anger at communist rule that became a groundswell by the late 1980s after Mikhail Gorbachev tried to save the Soviet system by curbing some of its excesses. Making such a film in the Soviet era would have been impossible, Satter notes. “You couldn’t go around with a camera in those days,” he says. “Pointing a video camera at someone would have been a little bit like pointing a machine gun at them—they would have been too afraid to talk.”

Filming began in 2006. Tracking down the surviving interviewees from more than 20 years earlier to get their stories on video was difficult, but local journalists helped. Satter says a greater challenge came in early 2011, when he had 150 hours of raw footage in hand and suddenly parted ways with his Russian director over what he describes as “artistic and other disagreements.” Satter put together the film himself after a weeklong crash course in using editing software. “I had no experience, but I also had no choice,” Satter says. The film won a Grand Jury Prize at this year’s Amsterdam Film Festival and has been well received in its scores of showings, including in Russia, Satter says.

He had a purpose in reopening the wounds of a vanished nation. He believes Russia’s present condition, including Vladimir Putin’s increasingly authoritarian rule and the corruption and gangsterism intertwined with much of the economy, has roots in the sins of the Soviet Union. Such connections are the subject of his two other books,

*Darkness at Dawn: The Rise of the Russian Criminal State* (Yale University Press, 2003) and *It Was a Long Time Ago, and It Never Happened Anyway: Russia and the Communist Past* (Yale University Press, 2011).

“The Soviet system destroyed people’s moral sense and the notion of individual conscience,” Satter says. “Only by facing the crimes of the past and understanding them can Russia move forward.” His film, he hopes, will be studied in classrooms as a frank and honest snapshot of life in the USSR. “The film depicts the real experiences of real people under the Soviets, and for that reason, I hope it has a long life.”

ILLUSTRATION BY JASON GREENBERG

## 2

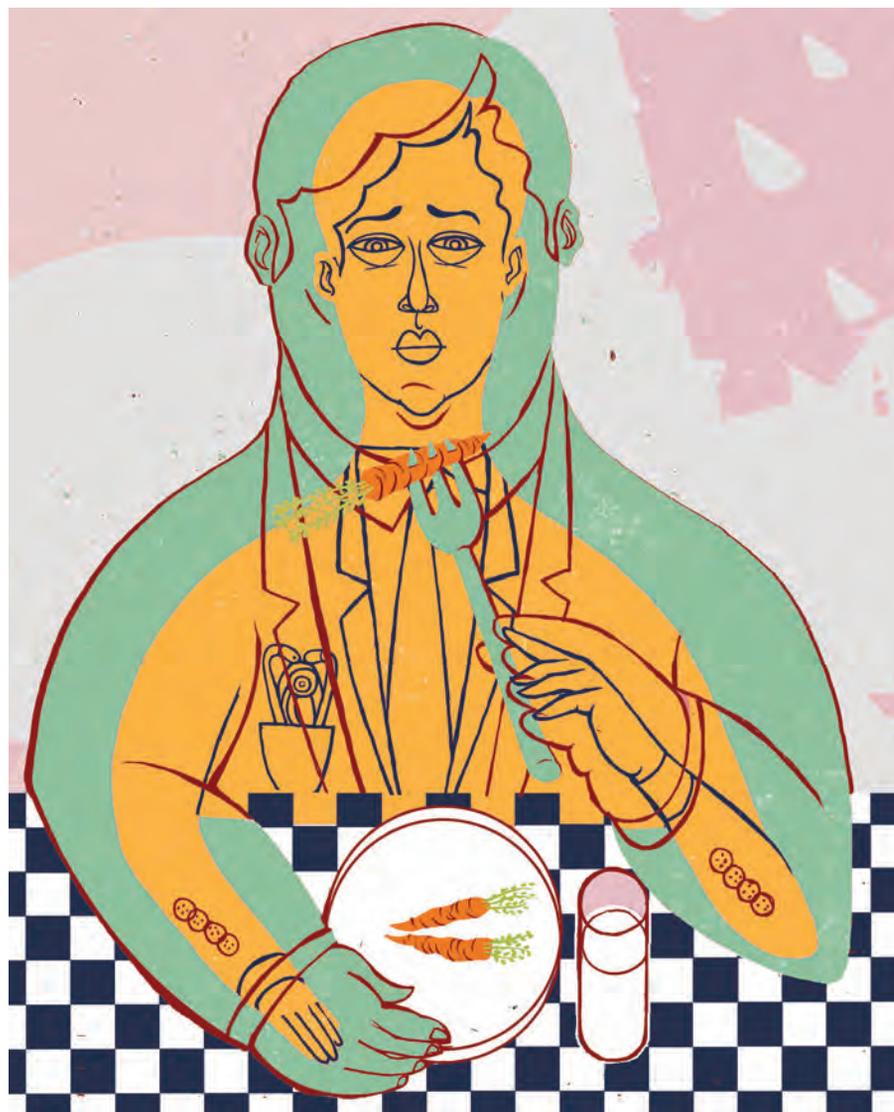
### PATIENT CARE

## Empathy Shortage

Kelly Brooks

Kimberly Gudzone spends most of her waking hours obsessing about weight: what to eat, how much to exercise, and how to build a healthy life. As a physician and expert on weight loss and obesity medicine, she’s lent a sympathetic ear to hundreds of overweight patients who tell her what it’s like to be treated as lazy, gluttonous, incompetent, and apathetic. Every day, such patients tell her stories of facing stigma from family, friends, and co-workers—and from their doctors.

Gudzone, an assistant professor in the School of Medicine, wanted to learn how bad these doctor-patient relationships might be, so she started reading on the topic. She says she found that “a lot of health care providers hold negative attitudes and in general have less respect for obese patients,” which



got her wondering: Does that affect what happens in the doctor’s office? She obtained permission to record 208 patients’ appointments, and discovered that the 39 doctors they had visited provided the same basic information on disease, medication, and healthy living to all patients, including those who were overweight. However, the doctors were far less empathetic with the overweight group, less likely to use language such as “I can see how you feel” or “I know it’s frustrating, but you’re making prog-

ress” to reassure, show concern, or reflect emotions back to the patient.

“Forming that bond is really critical when thinking about whether the patient will listen to the advice you give them,” Gudzone says. “When physicians have empathic conversations, their patients have better control of their blood pressure and cholesterol, they’re more satisfied with their care, and they’re more likely to follow through on care.”

Her research partner from the Bloomberg School of Public Health,

Sara Bleich, has further found that overweight patients trust overweight doctors more than normal-weight doctors to give counseling on weight. Why? “The shared characteristics help their relationship,” Bleich says. But she also discovered that few overweight doctors feel competent to counsel patients on nutrition (37 percent) and exercise (38 percent). That means patients may be better off getting weight-related advice from healthy-weight doctors—but only if those doctors can build enough rapport for overweight patients to listen to their advice and stick around for more than an appointment or two. Overweight and obese patients may hop around from doctor to doctor, looking for one that they like and trust. They are far more likely than healthy-weight patients to “doctor shop,” that is, to visit five or more primary care providers within a two-year period, which means they never develop a relationship and history with a single doctor.

Johns Hopkins has begun trying to train its next generation of doctors to better work with patients of all weights. First-year med students are required to take Topics in Interdisciplinary Medicine (TIME): Obesity, Nutrition, and Behavior Change, a four-day training on the science of weight management and the importance of the right doctor-patient relationship. Students begin by facing the uncomfortable question: Do I have a prejudice against overweight people? Many think they don’t until they take Harvard University’s online implicit association test to uncover biases test-takers aren’t even aware they have. The self-reflection is worthwhile, says Gudzone, because “once you know you do have a bias, you can make an extra effort to form connections with patients.”

The next step is to develop a bit of empathy for overweight patients. The students get some Q-and-A time with two formerly obese patients, one who lost weight with lifestyle changes and the other through bariatric surgery. Next, the students embrace a lifestyle change that doctors often recommend to overweight patients. For one week, they choose to follow the South Beach diet (low-carb) or the Ornish diet (low-fat), or to walk at least 10,000 steps each day as measured by a pedometer. Says Gudzone, “Almost universally, none of them have been able to stick with it. They say, ‘Oh my God, I had no idea how hard this is.’”

# 3

## BASEBALL HISTORY

### The Rub-down Man

**Bret McCabe**

Third baseman John Joseph McGraw was 5 feet and maybe 7 inches of never-back-down. He was 17 when he became a Baltimore Oriole in 1892, joining a team of pugnacious gents that dominated the 1890s. When he became player-manager of the New York Giants in 1902, he had a reputa-



Early 1900s African-American baseball trainers Ed Mackall (left) and William Buckner

PHOTOGRAPH BETTMANN/CORBIS

tion for winning at all costs and, soon, a nickname: Little Napoleon. Giants player-coach Arlie Latham once said McGraw “eats gunpowder every morning and washes it down with warm blood.” Touchy-feely just wasn’t in McGraw’s playbook. And yet, in June 1922, when McGraw stood at a podium inside a funeral parlor on Manhattan’s East 72nd Street to eulogize the Giants’ African-American trainer Ed Mackall, the national edition of the *Chicago Defender* reported that the Little Napoleon “brought tears to the eyes of his players” and finally “broke down from emotion and cried like a child at the end of his talk.”

Baseball’s collective memory is long, but Mackall’s story remains unfamiliar. Most of what’s known about him fits into a 166-word anecdote about a trophy bearing his name that appears in *Inside the Baseball Hall of Fame*, a book published in April by the National Baseball Hall of Fame. “I don’t think prior to this book coming out that many people knew either that we had that trophy or who Ed Mackall was,” says Tim Wiles, the director of research at the Hall of Fame who researched Mackall and wrote the short piece in the book. Wiles says he hadn’t known about Mackall prior to looking into him for the book. “What I found was a pretty compelling story about an African-American person being involved with major league baseball at a time when we don’t think of African-American people being involved and when social equality in the United States was still a pretty distant dream, both within baseball and society in general.”

Born in Baltimore in 1876, Mackall became the trainer—at the time, “rub-down man” or “rubber”—for McGraw in 1899, when McGraw was player-manager of the Orioles. McGraw

later brought him to the Giants, where Mackall spent the rest of his career before his untimely passing at 46 or 47 in 1922. Prior to major league baseball, Mackall was a trainer at Johns Hopkins University from 1890 to 1899. At least, that appears to be the situation. University employment records don’t go back that far. But a few newspaper articles from the time refer to his duties as a trainer at Hopkins.

Searching newspaper archives turns up about two dozen stories mentioning Mackall; some are reprints of appreciation obituaries, most mere mentions that simply identify him as the Giants trainer. These fill in his biographical plot points: At the time of his death, he lived with his wife, Nellie, at 64 Kosciuszko Street in Brooklyn. He had a son, name unknown. He was a member of the Hiram Lodge No. 4 F. & A.M. masonic lodge. His favorite hymn was “Abide With Me,” which was sung at his funeral. His body was returned to Baltimore and buried next to his mother. Attending his services were several past and present members of the Giants organization and the entire Bacharach Giants team, the Negro National League club based in Atlantic City. He was once a boxing trainer. He was known as “Eddie” and “was one of the most popular attachés of the club and was well liked by every one,” according to a story in the *New York Age*.

Mackall was so associated with the big-league Giants that in the April 2, 1938, edition of the *Pittsburgh Courier*, Chester L. Washington dedicated his column to sports trainers, the “men behind the stars,” and noted that Mackall “made the New York Giants one of the best physically conditioned clubs in the diamond world.” Indeed: With the Giants, he maintained the arms of famed pitchers Christy Mathewson and “Iron Man” Joe McGinnity, and the club won National

League pennants in 1904, 1905, 1911, 1912, 1913, 1917, and 1921 and the World Series in 1921.

Washington went on to say that Mackall was one of a cadre of esteemed black trainers in the league: Kirby Samuels of the St. Louis Cardinals, George Asten and Ed LaForce with the Pittsburgh Pirates, and the legendary William “Bill” Buckner of the Chicago White Sox. What’s left unstated is that African-Americans were accepted in the clubhouse but not on the fields. One newspaper story notes that in the summer of 1919, Mackall hid under a passenger train’s seats when the Giants passed through Springfield, Illinois, the site of a race riot earlier in the year; another reports that McGraw felt it prudent to send Mackall back to New York rather than have him accompany the team to Chicago, where race riots had broken out as well. And a short piece in the October 2, 1908, *Salt Lake Telegram* points out that one member of the Giants isn’t entitled to a share of postseason money should the club make the series: “The unfortunate person is Ed Mackall, colored trainer of the club.”

Which is simply to acknowledge that while Mackall seemed respected and liked by the Giants organization, he was still subject to the racism that came with being a black man in America. *The New York Sun* sports writer Frank Graham wrote that the Giants considered Mackall not only a trainer “but guide, philosopher and friend” in the same paragraph that he calls Mackall a “wizard at handling the club’s baggage” and praises him via Rudyard Kipling: “Like Gunga Din, he was ‘white, clean white, inside.’”

Mackall is never quoted in the articles in which he’s featured, forever in the margins of his own life’s story. One person, at least, saw what he

brought to the team. When the Giants won the pennant in 1911, every member of the team got a trophy—save Mackall. So McGraw took his and had it engraved with Mackall’s name and presented it to his trainer. At least, so suspect researchers at the Hall of Fame, where the trophy resides. “We know that the trophy was awarded to every player and to the manager on the team,” Wiles says, who notes Mackall’s trophy was donated to the museum in 1965. “Our theory is that McGraw took his own trophy and had it reinscribed and presented it to Ed Mackall. We don’t have any evidence of that, but it’s an educated guess on our part.”

# 4

RESEARCH

## Rewarding Altruism

Greg Rienzi

Conventional thinking on compensating blood donors comes down to this: Giving should be its own reward. Sure, offer donors a sticker, a lollipop, or some marketing swag for their trouble. But the desire to help your fellow man, not money, should be the motivation for overcoming inconvenience or squeamishness about needles. For four decades, the World Health Organization and blood banks around the world have frowned upon offering economic incentives for blood donation, out of ethical concerns and the belief that it’s detrimental not just to the quantity but the quality of the blood supply. Evidence from various surveys and research studies has suggested that substantial perks can actually drive away the altruistic and attract unsafe donors such as drug addicts

and those who engage in unsafe sexual practices. Blood banks also worry that if they offer compensation once, people will hold off donating again until there is a new offer.

A recent study published in *Science*, however, argues that something more than a pat on the back, such as a gift card, can indeed motivate donors in certain instances and locations. Mario Macis, an assistant professor at the Carey Business School, says his team of researchers examined existing studies and conducted their own field research in Europe, Argentina, and the United States (the latter in partnership with the American Red Cross) on the impact of a range of rewards, from T-shirts to one day of paid leave from work. They found that out of 19 incentives tested in the field, 18 increased donations. T-shirts and supermarket coupons led to 16 percent more donations at American Red Cross drives, and a one-day paid leave was associated with 40 percent more annual donations in Italy. In Switzerland, the offer of a \$5 lottery ticket increased donations by 5 percent, and a \$10 gift card in the United States increased donations by 50 percent. Only one reward, a free cholesterol test, had no appreciable impact. Where data were available, no negative effect on blood safety was detected.

Macis says that while his study does not indicate whether or not offering incentives all the time would have the desired long-term effect, results do suggest that incentives would be a good thing for attracting donations during a crisis, such as the aftermath of a natural disaster. Economic incentives could have a greater impact in developing countries, Macis says, which currently face serious blood shortages. “People are dying due to lack of blood supplies. There simply

is not enough blood for surgeries, transfusions, and for cancer patients or those with blood diseases.”

The problem is getting worse, he says. The current system of blood collection in many poorer countries relies on family or friends responding to an individual emergency and donating whatever the patient requires. “This sort of system can work in close-knit communities,” Macis says. But as developing countries grow and average incomes increase, citizens gain access to better health care, such as elective surgery that requires blood. Collecting blood from friends or relatives in advance of a procedure is inefficient and sometimes ineffective. It’s better to have a supply of blood on hand to ensure there will be enough of all blood types to meet demand.

Currently, WHO is pushing developing countries to switch from emergency-based systems to banking undirected donations. To make this possible, Macis says standard guidelines against economic rewards for blood donors should be reconsidered. “We are asking people to do something outside the norm, to donate blood anonymously in an unrestricted way,” he says. “The switch is not going to happen overnight but has to start somewhere.”

# 5

COMPUTER SCIENCE

## The DNA Data Flood

Dale Keiger

If a DNA datum lands in a hard drive and no one is there to analyze it, does it make a sound?

In April 2003, the NIH-funded Human Genome Project announced

it was “essentially finished” with the first sequencing of a complete human genome. The project’s website lists the cost as \$2.7 billion in 1991 dollars (the equivalent of \$4.6 billion now, according to the Bureau of Labor Statistics). Ten years later, a genome can be sequenced for a few thousand dollars using a sequencer small enough to sit on a laboratory bench. Sequencing technology that used to cost \$300 million now can be had for \$5,000. So research institutions all over the world are sequencing DNA from humans, animals, plants, and microbes, rapidly building the global genomic sciences database one nucleotide at a time.

But those nucleotides are coming in a torrent of sequencing information that has over-

whelmed existing computational capability in what computer scientist Ben Langmead has termed “a DNA data deluge.” In an article of that title published online by *IEEE Spectrum*, he estimates that hospitals and laboratories from New York to Nairobi now operate about 2,000 sequencers that read 15 quadrillion nucleotides and produce 15 petabytes of compressed genetic data per year. If that

number means nothing to you, a) you are normal and b) maybe this will help: Imagine that data stored on conventional

DVDs; the resulting stack would create a tower two miles high. And every year, sequencers produce another two-mile tower. Langmead, an assistant professor of computer science in the Whiting School of Engineering, notes that according to Moore’s Law, the speed of computer processors approximately doubles every two years. But from 2008 to 2013, sequencer throughput increased three to five times per *single* year. “The sequencers are getting faster—faster than the computers are getting faster,” Langmead says.

The problem arises in large part because the best gene sequencers now available cannot simply unzip a double

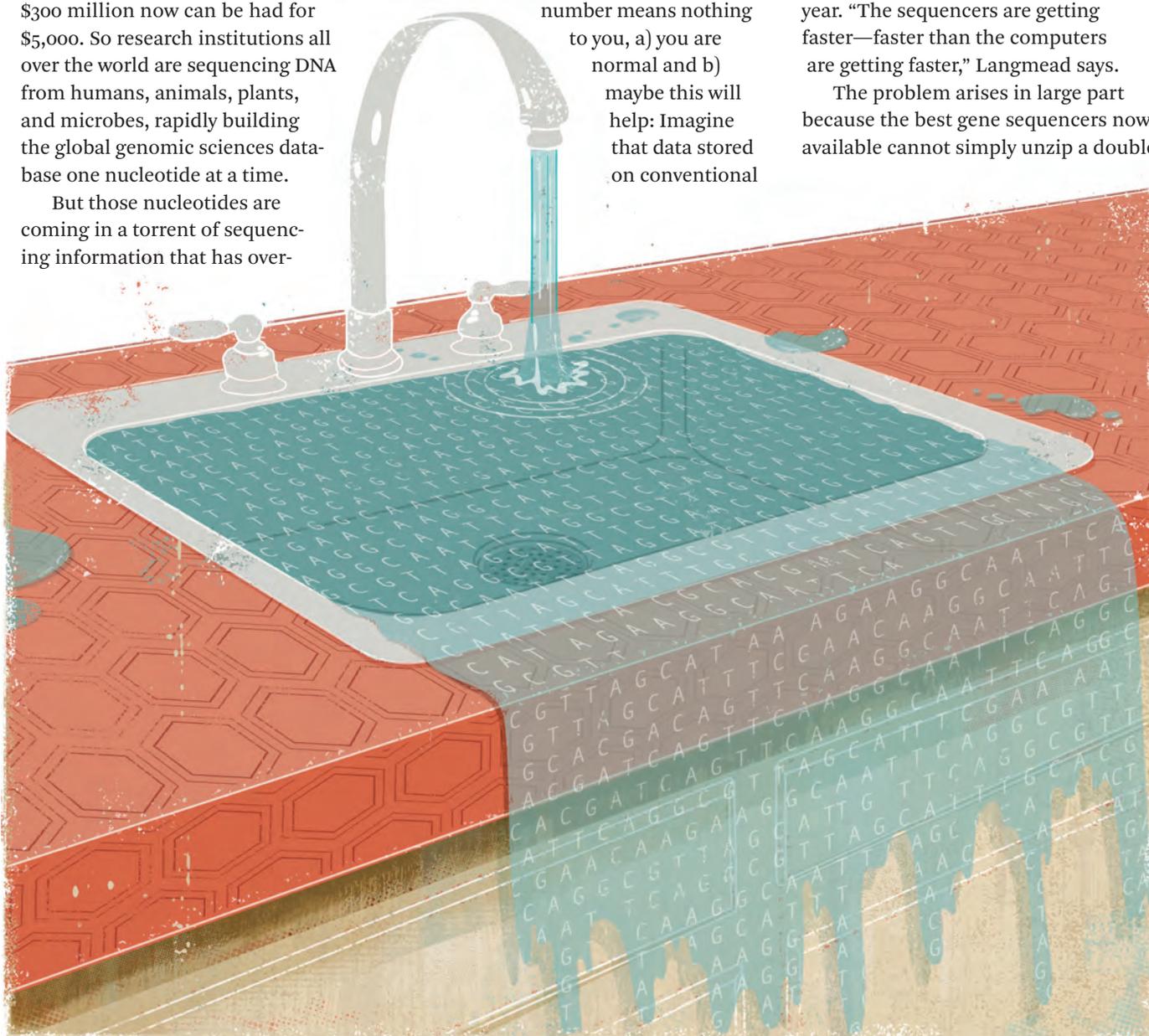


ILLUSTRATION BRUCE ROSCH

helix of DNA, read the long string of adenine, cytosine, guanine, and thymine from beginning to end, then print out a complete and accurate genome ready for study. They must read multiple copies of the same DNA broken into millions of fragments. Then, computers take over, sifting all those fragments, identifying and ignoring the sequencer's errors, determining the correct order, and assembling a single accurate sequence that's usable by a researcher. For that last crucial task, Langmead says, there is not enough computing power, there are not enough good algorithms for accurately assembling the sequencer's fragmentary reads, and there is not enough expertise working on the problem. So valuable data that was expensive to assemble sits unused, waiting for smart people like Langmead to figure something out.

His principal job is to write better algorithms, and think of better ways to apply them and scale them up to handle huge datasets. It is a juicy problem if you are an algorithm guy. DNA is chock full of nucleotide patterns that repeat thousands of times in a single genome. (The sequence GATTACA, which supplied the title of a 1997 science fiction movie, recurs roughly 697,000 times throughout the human genome.) Where in the string do they fit? Langmead likens it to a square puzzle piece of pure blue sky; how do you figure out where it fits, and how do you accurately sort a thousand of them? Assembly algorithms compare snippets of a sequenced genome to the reference genome put together by the Human Genome Project to figure out where the snippets go in the chain. But with so many repetitions, that is a mammoth problem made more difficult by the fact that sequencers make mistakes. Sometimes a fragment

does not align with the reference genome because it is evidence of a mutation; other times, the explanation is that the sequencer read it wrong. How do you tell which is the case, and where does a genuine anomaly fit? "It's hard to get it right, and it's hard to estimate how right you are," Langmead says.

Working with Michael Schatz, a quantitative biologist at Cold Spring Harbor Laboratory in New York and co-author of "The DNA Data Deluge," Langmead has created a computational tool that helps with these problems and can be used on data uploaded to cloud servers like those operated by Amazon. The latter is important because it means a research lab does not need its own expensive computer clusters.

"Making algorithms faster is the ultimate," Langmead says. "But we can't bank on it. We can't say, 'I'm going to invent three new algorithms by October.' They're sort of magical insights." He believes better sequencing technology may arrive first. A new technique called nanopore sequencing, which reads a DNA strand by pulling it through a microscopic pore, might eliminate the need to read multiple strands, which would substantially reduce how much data an algorithm has to handle. Or a breakthrough might come from applying something developed for another field. This has already happened once. An algorithm called the Burrows-Wheeler transform was developed to compress text; it turns out it works well at aligning fragmentary nucleotide reads, as well. "Sometimes," says Langmead, "the missing piece is just an insight about how another tool, invented by someone more brilliant than you, can be translated and used in a new context."

# 6

## PUBLIC HEALTH

### Guns Kill Cops

Elizabeth Evitts Dickinson

In 2010, David Swedler set out to better understand police officer homicides. How and why were cops dying on the job? A doctoral candidate in the Bloomberg School of Public Health, Swedler wanted to go beyond the figures recorded in the U.S. Bureau of Labor Statistics' Census of Fatal Occupational Injuries. He wanted the stories behind the numbers. In pursuit of those stories, Swedler and his research team discovered a valuable and previously untapped resource: a U.S. Department of Justice database called Law Enforcement Officers



Killed and Assaulted. The database includes not only basic statistics about police homicides but narrative descriptions of each violent encounter. The researchers had their stories.

Swedler began by reading every narrative covering a two-year span and identifying all the details that directly or indirectly contributed to each homicide. The team then applied a data collection method known as narrative text analysis. “We went methodically through every single case and captured the same data, and from that we were able to see the themes and make a consistent numerical database,” says Swedler. “Using this method is a good way for researchers to get raw epidemiological data from a population. No one to my knowledge has ever used this database in this way before.”

The results were published this spring in the journal *Injury Prevention*. The study revealed information that surprised Swedler. First, an overwhelming number of the officers—93 percent—died from gunshots. “We expected guns to be commonly used,” Swedler says, “but we thought that homicides would be perpetrated by other means as well. We were really surprised by that 93 percent.” In 10 percent of cases, officers were shot with their own guns. In 43 percent of the homicides, the victims were working alone, often responding to domestic disturbance calls. “They would arrive on the scene and they would be ambushed and they weren’t prepared,” Swedler says.

Reading all the accounts of officers walking into their deaths was “incredibly depressing,” Swedler says. One narrative began, “On April 15 at approximately 17:15, a 29-year-old patrol officer was fatally wounded when he responded to a domestic disturbance call. The officer . . . was the first officer on the scene.

Exiting his vehicle, the officer walked to a small one-story house, approached the porch, and was immediately hit by a single round to the chest.”

Swedler says, “We came to this as a pure occupational health and safety issue. By better understanding what scenarios these officers are dying in, we could help in the discussion about future injury prevention.” For example, the incidence of police shot with their own firearms suggests adoption of “personalized” firearms that can be fired only by an officer or his or her partner. Many of the fatal wounds were to the head and the neck, where police lack body armor. “Should officers wear Kevlar helmets?” Swedler asks. The number of police killed when they responded alone to domestic disturbance calls indicates a need for backup in those situations. “More research like this could contribute to better training,” Swedler says. “These officers are put into very difficult situations, and we want to prepare them as best we can.”

# 7

## EDUCATION

### Personalizing School

**Marianne Amoss**

When you buy paper towels, mascara, or diapers at Target, you unwittingly reveal a lot about yourself and your consumption habits. Target and other savvy retailers track what you buy, monitor your credit card purchases and website visits, and link that data to demographic information—your marital status, your ethnicity, and

other personal but accessible details. Then they analyze all of that data with one goal in mind: figuring out how to sell you more stuff.

Now this approach is being piloted in a field altogether different from retail sales: education. Educators call this personalized learning, and it draws on similar kinds of technology and analytics to customize education for individual students. The goal here is to get students to learn more stuff. Proponents of personalized learning, including School of Education Dean David Andrews, believe it has the potential to revolutionize education. “The grocery store does a better job of managing their data because they’re tracking everything and they’re using sophisticated analytics to try to figure out how to get you to Aisle 4,” Andrews says. “We’re not using the same sophisticated analytics in school to understand how to lead students to the best learning strategies.”

The philosophy underlying personalized learning is not new. Educators have long eschewed a one-size-fits-all approach to instruction. What’s new here is data. In student-centric personalized learning environments, students work to master core skills and concepts in their preferred ways, some in small peer groups, some via computerized instruction, some through one-on-one guidance from a teacher. Teachers digitally record their observations and student performance data as the computers capture student progress click by click. The data are analyzed and displayed on a dashboard that teachers can access on a daily or weekly basis to adjust each student’s course, ensuring he receives learning material tailored to his needs, interests, and learning preferences. At the beginning of each new school year, teachers review the profiles of their

incoming students to be better prepared to teach well.

To pull off personalized learning, schools need to switch from a focus on summative data (grades on midterm exams, papers, or tests; scores gathered at the end of a project or semester, etc.) to more-frequently gathered formative data (more-timely measures of skill level, mastery of concepts, etc.)—and then put that data to more strategic use. “Teachers are observing students all the time and making qualitative judgments about what’s happening,” Andrews says. “They’re just not tracking it.”

Instituting this new methodology will be no small feat. The required technology is costly, and teachers will have to be trained on the new system and then find the time to gather, enter, and fully utilize student data. There is a risk of widening the gap between the haves and the have-nots: In school systems that can’t afford to implement personalized learning, struggling students may end up even further behind their peers who attend better-funded schools.

If the access issue can be solved, “I think it can be an equalizer,” says Andrews, who is writing a book on personalized learning to be published in 2014. Johns Hopkins plans to implement the idea at Elmer A. Henderson School in East Baltimore. Known as Henderson-Hopkins, the K–8 school is a contract school of the Baltimore City public school system and Hopkins’ School of Education, in partnership with Morgan State University’s School of Education and Urban Studies. The new 90,000-square-foot facility is scheduled to open in January 2014, and like other personalized learning schools features flexible common areas that can be used for collaborative student work and hands-on activities. Andrews says the first

step will be adding enhanced data collection and technological capacity to the school’s Success for All literacy program, an evidence-based system created by Johns Hopkins education researchers.

Personalized learning isn’t just an opportunity—it’s also a mandate for educators, Andrews believes. “In the next generation, because of the information age, learners are going to expect that [everything they do is] personalized,” Andrews says. “It’s becoming an expectation of learners that we’re going to have to meet.”

# 8

POP CULTURE

## (Breaking) Bad Teacher

Bret McCabe

Political theorist Samuel Chambers was finishing up his book about contemporary French philosopher Jacques Rancière when the fourth season of *Breaking Bad* began airing in the fall of 2011. The associate professor in the Krieger School’s Department of Political Science is no stranger to watching popular culture through a political prism. His 2009 book *The Queer Politics of Television* treats television shows such as *The L Word*, *Buffy the Vampire Slayer*, and *Six Feet Under* as political texts, discussing how they articulate political meanings and ideas. But in *Breaking Bad*, he encountered a storyline that dramatized some of the ideas he wrestled with in his academic work.

For *The Lessons of Rancière* (Oxford University Press, 2012), Chambers

explores Rancière’s radical reconceptualization of the education process. In *Breaking Bad*’s fourth-season story arc—which follows how Walter White, the high school chemistry teacher turned methamphetamine manufacturer, and his partner, Jesse, a former student, get embroiled with drug dealer Gus Fring—Chambers saw relationships develop that illustrate Rancière’s thoughts on two different models of teaching. The result is “Walter White Is a Bad Teacher: Pedagogy, *Partage*, and Politics in Season 4 of *Breaking Bad*,” a paper forthcoming in the journal *Theory & Event*.

Chambers opens “Bad Teacher” with a compact introduction to his reading of Rancière’s thoughts on pedagogy. To Rancière, teaching traditionally relies exclusively on explanation: An instructor assigns a text to students, who read it and return to class, where the instructor lectures from the position of being the expert on the subject. To explain a text to someone who has read it is “to treat that person like a brute who is incapable of understanding,” Chambers writes in the paper, and this relationship not only assumes students lack the ability to understand what they read without the teacher’s explanation, it makes sure they *won’t* learn. Chambers calls this sort of teacher the stultifier, since explanation, for Rancière, leads to stultification in the student. The goal of education should not be to stultify students but to emancipate them—or as Chambers quotes Rancière, “to oblige . . . the student to use his own intelligence.” Chambers teases this idea out further, arguing that an emancipatory teacher ideally provides the experience for the student to realize the “equality of intelligence” between student and teacher.



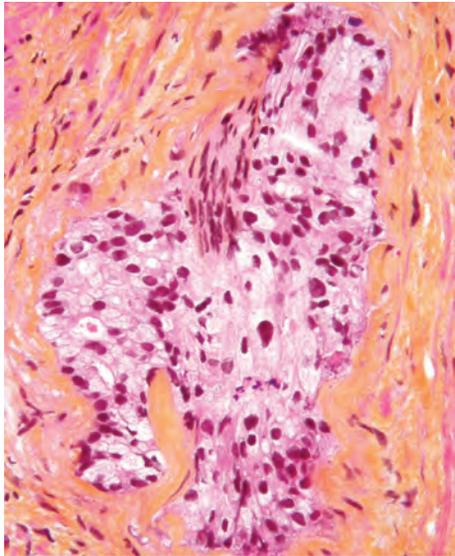
Chambers' critical reading of *Breaking Bad* understands White as the stultifier and Fring as the emancipator in their relationships with Jesse. It's a refreshingly novel way to think about the show. Walter White is normally treated as just another of television's morally flawed male anti-heroes. Chambers' reading places White and *Breaking Bad* in an American context where the story has more going on than the cat-and-mouse game between White and his brother-in-law (and DEA agent) Hank. "There's more at stake in the cultural politics of TV than drawing the viewer to flawed men," Chambers writes. "I'm inter-

ested in the relation between the world constructed by a TV series and the world that we live in. This is one of the many reasons why I think the pedagogical relationships in *Breaking Bad* are potentially important, because pedagogical relations are ubiquitous, and in Rancière's argument, we see that the question of emancipation (of human freedom) is bound up with the question of students and teachers, of learning and teaching."

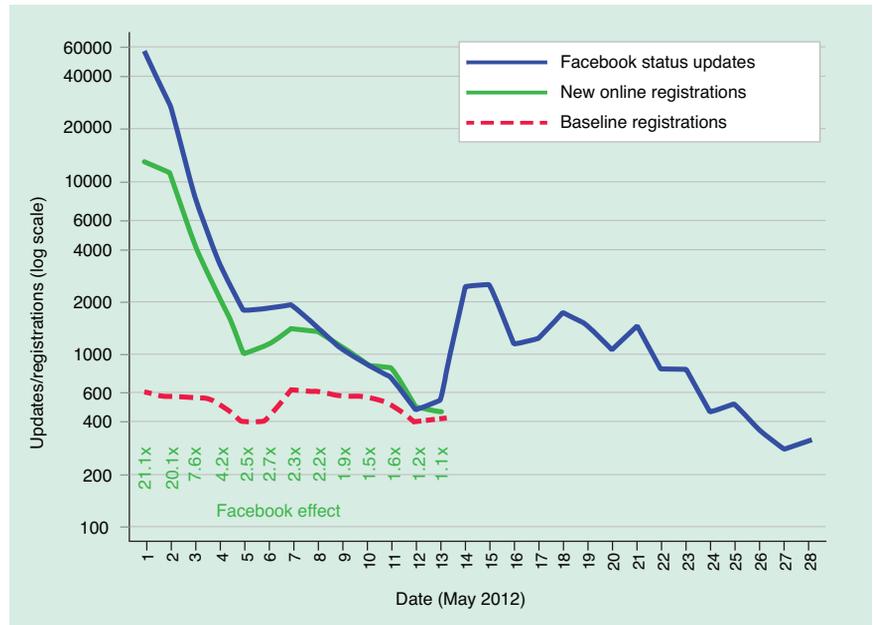
Chambers adds, "The main claim in my article can in some ways be boiled down to this: We see the stakes of the cultural politics of *Breaking Bad* much more starkly when we

interpret Season 4 as a contest between Walt and Gus waged not just in terms of power and force, but in terms of a competition over Jesse as student. I think that most traditional pedagogies would be unable to see Gus as a teacher, since he doesn't really do any traditional teaching. But Rancière's pedagogy, in which the teacher can 'teach what he does not know,' makes possible an entirely different way of viewing Gus. And more to the point, reading Season 4 as a pair of competing pedagogical relationships (Gus/Jesse vs. Walt/Jesse) gives us a whole new view of Walt."

Micrograph of a prostate adenocarcinoma.



A simple change on Facebook prompted a surge in organ donor registration.



LEFT: NEPHRON  
RIGHT: THE AMERICAN JOURNAL OF TRANSPLANTATION

**By Dale Keiger**

For more information on these Johns Hopkins research findings, click on the stories.

**EYES AND EARS**

Patients under treatment for “wet” age-related macular degeneration now must receive injections in the eye as often as once per month. A new drug with a time-release coating, which proved effective in laboratory mice, could reduce the need for injections to only two or three times per year.

Hearing loss can have a profound effect on the health of older adults. Survey data from 1,140 hearing-impaired men and women aged 70 and older found they were 32 percent more likely to be admitted to a hospital than a control group of older adults with normal hearing. They also were 36 percent more likely to experience prolonged illness or injury and 57 percent more likely to experience deep stress or depression.

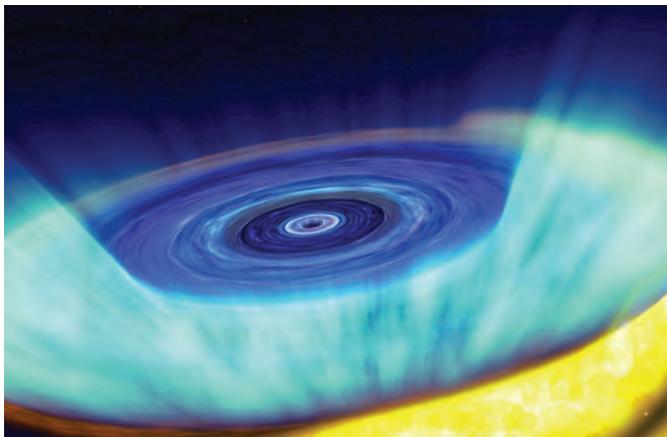
**CHEER UP**

Bad news for grumps: Men and women with cheerful temperaments are less likely to have heart attacks or suffer sudden cardiac death. Researchers found that positive outlooks were associated with a one-third reduction in coronary events. They noted that the mechanism behind the positive effects of cheerfulness is not clear, which is perhaps something to be grumpy about.

Nursing research determined that a home-based program called “Beat the Blues” helped more than two-thirds of financially strained older African-Americans reduce symptoms of depression. When members of the control group were added to participants after four months, they too benefited.

In May 2012, after Facebook facilitated users sharing their organ donor status online and registering as donors with state departments of motor vehicles,

Gas spiraling around a black hole emits high-energy X-rays.



Damage to a retina from “wet” macular degeneration.



new donor registrations increased more than 20-fold in the first day, according to a new study. Twelve days later, registrations were still running at twice the normal rate.

### SPACE GAS

Astrophysicists have demonstrated that not only can black holes produce the high-energy X-rays previously noted in observations, it is inevitable that they will do so. The scientists used super-computer-generated simulations and calculations done by hand on notepads—yes, you read that correctly—to create a model of how a super-heated corona of gas spiraling around a black hole produces the X-rays.

The Spitzer Space Telescope observed Comet ISON emitting 120 million pounds of dust and 2.2 million pounds of what is probably carbon dioxide every day. Space scientists are studying the comet as it

hurtles through the solar system. Later this year, it may become so bright as to be visible from Earth in daylight.

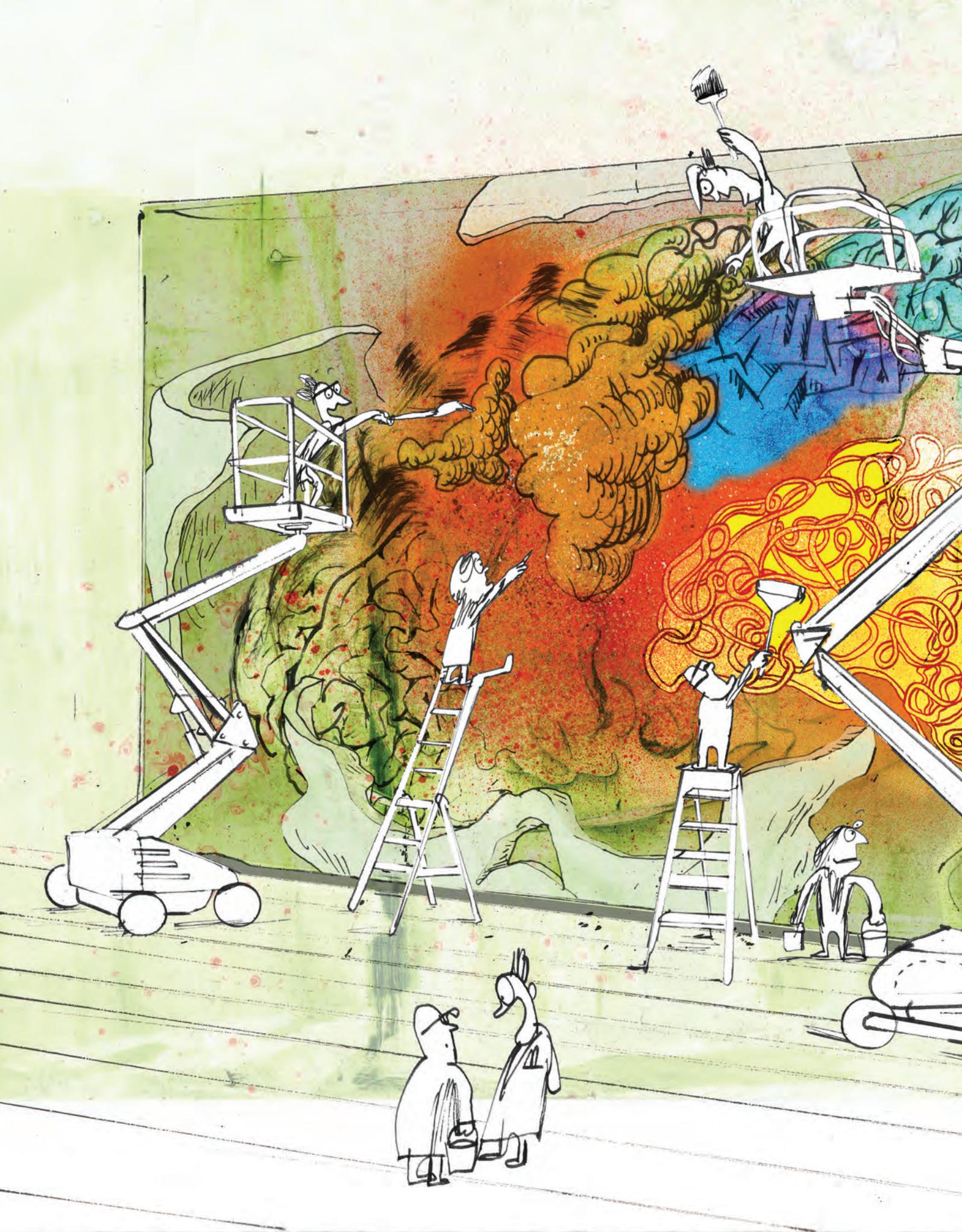
### IGNORING WHAT WORKS

Holding liquor retailers liable for harm caused by patrons who were drunk or underage when served has been found to reduce that harm in states that have “commercial host liability” laws. Nevertheless, a new study found that several states have enacted laws to protect retailers from such liability.

When pediatricians use trained medical interpreters in dealing with families that speak limited English, medical outcomes improve and there are fewer errors. But two national studies found that 57 percent of surveyed pediatricians rely not on interpreters but on family members, despite the greater likelihood of miscommunication or mistakes.

### DON'T WAIT AND SEE

African-American men diagnosed with very low-risk prostate cancer are much more likely than white men to actually have an unrecognized aggressive form of the cancer. A study of 1,800 men ages 52 to 62 found that delaying treatment in favor of monitoring the cancer through an “active surveillance” plan may be the wrong course of action for black men.





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# A LOT TO LEARN

Researchers from across the university have banded together to understand how our brains learn. First question: What, exactly, does that mean?

Dale Keiger

ILLUSTRATIONS Simon Spilsbury

**B**arry Gordon is a voluble man on the subject of the human brain. There is a volubility even in the inventory of his professional disciplines: neurology, cognitive neuroscience, neuropsychology, behavioral neurology, experimental psychology. (Formally, he is a professor of neurology at the School of Medicine and professor of cognitive science at the Krieger School of Arts and Sciences.) Ask him about the brain, which he has been studying at Johns Hopkins since the 1970s, and he can riff for 20 minutes about what is known and how much is not known, and the oddities of memory and the conservation of brain biochemistry across eons of evolution and questions that no one can answer despite centuries of pondering. How do we learn to pronounce words? Good question. Why are most of us, once past age 5, unable to learn to pronounce a foreign language like a native speaker? Another good question. The typical human brain has associative skills that no computer can match. You can look at a bucket and a shot glass and despite their differences your brain immediately associates them as vessels that hold liquid. How does it do that? Why did it take Gordon's own autistic son years to learn he had to close his mouth when swimming so as not to choke, yet he can remember and place a license plate number he glimpsed only once three years ago? "My science should be able to explain this," Gordon says. "But it doesn't."

Late in 2011, Gordon was brought into a small network of people who for a few years had been discussing the ways and means of supporting and expanding mind/brain science at Johns Hopkins. The *ways* part of the conversation centered on acknowledging that while Hopkins was strong across several disciplines—cognitive science, neuroscience, neurology, psychology, and more—those disciplines did not interact as well as they might. The *means* part concerned the "Rising to the Challenge" fundraising campaign, which had begun its quiet phase in January 2010 and was to be publicly launched in 2013. The institution's development strategists were assembling a set of signature campaign initiatives meant to attract major gifts for work on some of humanity's biggest problems. Fundamental to that effort would be bringing together

research and scholarly disciplines scattered across Johns Hopkins' divisions, institutes, and centers to create initiatives that would capture the imagination of donors.

The brain science conversation initially focused on neuroscience. At some point—the participants are fuzzy on precisely when—the discussion shifted. Barbara Landau, a professor in the Krieger School of Arts and Sciences' Department of Cognitive Science and vice provost for faculty affairs, recalls, "Somewhere along the line somebody came up with the idea that what could be a focus of all these different efforts was learning, with an emphasis on the science of learning." That paradigm shift created the opportunity to pull in other parts of the university, including education, engineering, and humanities, for creation of a major new research collaboration. When an anonymous donor came through with a major gift, the Johns Hopkins Science of Learning Institute was born with Landau as its director.

The institute's creation could be regarded as formal recognition of a paradox. Many life forms learn. Some of them learn well. But they do not approach the ability of humans to learn. For all that ability, though, after millennia of study and research and thought, we still do not have a complete understanding of *how* we learn. One could go deeper and say that we are in the process of learning how to learn about learning. Were you to imagine a pile of everything known about cognition, memory, reasoning, brain chemistry, and all the other ways the brain works, it would be a large pile. We do know a lot. But do we understand how one day a child learns that the string of letters on a page of her favorite book means "Hop on Pop"? Do we know what happens in the brain when someone learns that depressing the right set of keys on a piano produces an E major chord, or a law student memorizes enough law to pass the bar exam, or a stroke victim learns to speak again? Do we know how best to teach whatever needs to be learned by schoolchildren and college students and adult workers in need of retraining for a new economy? No. Most of our answers to these and similar questions are partial, at best.

One of Gordon's riffs concerns how the basic biochemical building blocks of the human brain have been around for hundreds of millions of years, which to him makes the brain an assem-



blage of very old technology: “So what is it about the human brain and our culture that takes this ancient hardware and just 18 years or less of education and produces, somehow, a generalized learning machine that seems so much bigger than the sum of its parts?”

Good question.

**L**earning is not an elective. “We are forced to learn,” Gordon says. “We’re born helpless. We stay helpless for a long time. We don’t consider our children ready to go into the world until they’re 18. It takes a lifetime of learning to learn how to live.”

That lifetime of learning is a lifetime of accumulating memories. Richard Huganir became fascinated by memory before he was one of those 18-year-olds deemed ready to go into the world. “When I got to high school, it occurred to me that what made me unique was memory and my experiences,” he says. “That’s what makes us who we are.” He still has a notebook he compiled for a high school science project in 1971. On its pages are notes about memory and protein synthesis. He was

trying to recreate an experiment he read about in *Scientific American* that involved training goldfish. “Didn’t quite work out, but it was fun,” Huganir recalls. “Goldfish actually learn pretty well.”

Forty-two years later as director of the School of Medicine’s Neuroscience Department, Huganir is still studying memory, though mice have replaced the goldfish. He now concentrates on the physiology of the brain’s synapses, the structures that enable transmission of nerve impulses between neurons. One theory of learning maintains that when you learn something, your brain has either created a new synaptic circuit or strengthened an existing one. The ability to recall what you have learned is actually the reactivation of that chemical-electrical circuit. To figure out how that happens, the researchers in Huganir’s lab work at the cellular and molecular level. “It’s an interesting biological problem,” he says. “A memory has to be physically encoded in your brain and has to be stable for decades. But the brain is not a computer circuit. It’s not hard-wired. It’s made of proteins and lipids, and all these things turn over in the brain and get degraded. If a memory is really the synaptic

circuit, how do you maintain that circuit within this very mushy, dynamic brain?”

Another aspect of memory that fascinates Huganir is the role of emotion. We learn, sometimes for life, from emotional events because something about emotion makes for vivid memories. Huganir notes that such events release neuromodulators in the brain, chemicals like norepinephrine and dopamine that seem to tap into memory circuits and strengthen them. But memories, powerful as they may be, are not as locked into our brains as once thought, at least not immediately. One of Huganir’s most startling findings is that traumatic memories can be erased, or at least the fear associated with them can be erased. “What this means, basically, is that you can edit your memory,” he says. “So if you have a memory event, the memory is not that stable. You can recall it and modify it at later dates.” But there appears to be a deadline for this sort of revision. If a memory that generates fear is not “edited” within about a week, Huganir says, it becomes locked into our brains as traumatic. He has been working on extending the deadline and thinks his research team may have found a pathway into traumatic memory that could permit erasing it as much as a year after its formation. He is working with Barbara Slusher at the Brain Science Institute to develop a compound that will help tap into this pathway. In the Science of Learning Institute, he is working on the science of unlearning.

**A** science of relearning is practiced by Michael McCloskey, a professor of cognitive science in the Krieger School. McCloskey studies people with unusual impairments that have left them unable to do something they learned to do as children. He has been working with a small group of people who have suffered brain impairments that have left them unable to recognize letters or digits. Nothing is wrong with their memories—they did not forget letters and numbers. But when they look at an A or a Q or a 9, they simply cannot recognize it. They can still speak, they can still write, and their vision is otherwise normal. But something has happened that has left them unable to look at an X or an 8 and see them.

McCloskey has been working closely with a girl who has an abnormal tangle of blood vessels in her brain known as an arteriovenous malformation, which he calls “a big tangled mess that’s not supposed to be there.” The blood vessels of an AVM are prone to leaking, and when this girl was 11, her malformation hemorrhaged. Now 13, she has come back to nearly normal motor functions and speech and cognitive abilities, but for one baffling thing—when she looks at letters or digits, all she sees are blurred, unrecognizable shapes. Display a drawing of a peanut and she sees it perfectly. Put the peanut inside a 4, or even merely close to a 4, and it becomes an indistinct blob. Show her one circle placed close above another, and she sees them and recognizes that they suggest the numeral 8. Bring the circles together and as soon as they touch they become indistinguishable blurs. “It’s stunningly specific,” McCloskey says. Another of McCloskey’s subjects is a 60-year-old engineering geologist with a neurodegenerative disease who can read just fine. But display a digit and he cannot see it. He has lost none of the ability with mathematics essential to his work, and he can read Roman numerals and number words like “thirty” or “nine,” but he cannot distinguish one Arabic digit from another.

McCloskey says, “These are clearly learning-related problems. If we give any of them a random shape of some kind, they can see it perfectly well. Stored knowledge or processes that have been acquired are getting activated when they look at these things, but then something goes terribly wrong.”

For the engineering geologist, McCloskey and his team devised a new system of marks that represent the values 0 through 9. These the geologist can not only see but use mathematically to continue his engineering work. This raises interesting questions about learning, McCloskey says. For example, when the man was a child too young to have learned the concepts represented by numbers, he still could see them. After his stroke, he could not see them *because* they were numbers, which means the problem stemmed from the fact that earlier he had learned what numbers are. If he had never learned numbers, they would not now be distorted beyond recognition. How do you explain that? And how can you

explain that by learning a new system of marks, he could see “numbers” again? Good question.

In experiments with the 13-year-old who cannot see letters, he found that when he modified the forms of letters in certain ways, she began to recognize them. He recalls, “Someone said, ‘Well, why don’t you just put lines through the text?’ And I thought, ‘Oh, that won’t work.’” He laughs about that now, because when they took a few sentences of text on a computer screen and changed the font so as to cross every letter with a double line—the ~~double strikethrough~~ often used in legal documents—suddenly the girl could read, no problem. A single line does not work. It has to be double. The lines also have to be in the right place through the letters. Too high or too low and they do not work. “Do we know why?” McCloskey says. “No, not really.”

ONE WAY TO understand the dimension of the challenge faced by the science of learning is to consider the difficulty of simply being clear on what counts as learning. A science needs a clear conception of itself and its subject. Imagine doing biophysics without clarity on what was meant by “biophysics.” Steven Gross knows a lot of science, but he is not a scientist. He is an associate professor of philosophy in the Krieger School who pays close attention to the work of cognitive scientists in his study of the philosophy of mind. His role in the Science of Learning Institute is to think about what it really means to have learned something.

He points out that learning is far more complex than a simple matter of yesterday you didn’t know how to order wine in French, and today you do. Because you have acquired sufficient vocabulary, grammar, and syntax to procure a bottle of Côte de Beaune, does that mean you have learned at least some French? Seems like a reasonable proposition. Then Gross asks, “So does any kind of acquisition count as learning? What do I mean by ‘acquisition’? That there was a time when I didn’t have it, and a time when I do have it, so now I’ve learned it?” Yes, that seems right. OK, Gross responds, then what about this: One day an adolescent boy’s voice cracks and he sprouts whiskers on his chin. He has acquired secondary sexual characteristics. Does that mean he has learned them? No, that seems silly. So would the

more specific “acquisition of knowledge” work as a definition of learning? Well, what about acquisition of a motor skill? We say our toddler has “learned” how to walk. But it is far from clear that this amounts to “acquired knowledge of walking;” unless balance and coordination and muscle memory count as knowledge.

And however we define learning, when have we crossed from “learning” to “learned”? Some types of learning are not a matter of degree. Either you know that three is an odd number and Sacramento is the capital of California, or you do not. But returning to his example of ordering a bottle of wine in a French café, Gross points out that knowing enough of the language to overspend on a bottle of wine does not mean you could teach a graduate seminar at the Sorbonne. So at what point have you learned to speak French? When you know 10,000 French words? When you can discuss Camus in a classroom in Paris? When you dream in French?

**M**ariale Hardiman has watched all of this activity intently. Hardiman is a co-founder and the director of the School of Education’s Neuro-Education Initiative, which was first funded by the Brain Science Institute and created to further the application of brain science to education. “We started it with the goal that teachers should know what the science is and have translations so they can use it in their classrooms. Teachers need to understand research to avoid ‘neuromyths’ like the ‘Mozart effect’”—the spurious idea that exposing children to classical music could increase their intelligence—“and to be able to parse research to understand it. We need to teach that in teacher preparation programs.”

Susan Magsamen, director of interdisciplinary partnerships at Hopkins’ Brain Science Institute and another co-founder of the Neuro-Education Initiative, says, “We know a lot about how people learn at optimal levels. But education and the science of learning are so disconnected. We know so much from looking at optimal hours of the day for different kinds of learning, thinking about nutrition, thinking about exercise and learning, thinking about stress and learning. But it has not been rigorously applied.” School

**“So does any kind of acquisition count as learning? What do I mean by ‘acquisition’? That there was a time when I didn’t have it, and a time when I do have it, so now I’ve learned it?”**

Steven Gross

**“We have found that the information we’re giving about neuro and cognitive science has significantly improved teachers’ beliefs in their own efficacy and the general efficacy of teaching.”**

Mariale Hardiman

systems adopt new ideas because they seem good and because other educators are excited about them, not because anybody knows whether or not they work. “That’s very different from an evidence-based approach to learning. Many schools of education are still operating like they’re in the 1950s.”

One example of the evidence-based approach: Hardiman has subjected work of the Neuro-Education Initiative to outcomes research. “We say that teachers should have knowledge of neuro and cognitive science,” she says. “But in reality, what difference does that knowledge make in teacher practice? Does it make any difference? Or is it just some thought I and others have that teachers need to know this?” To find out, she and a research team gave four cohorts of teachers about 30 hours of professional development instruction in brain science, and surveyed them before and after the training. The researchers found that the instruction significantly improved teachers’ knowledge of brain science and their attitudes toward applying it to the classroom. Of more importance, Hardiman says, was their finding that after learning about the science, more teachers believed they really could improve the lives of children. “An example of a teacher who does not have a belief in efficacy of teaching is one who is teaching children in poverty and says, ‘You know what? There’s only so much we can do.’ We have found that the information we’re giving about neuro and cognitive science has significantly improved teachers’ beliefs in their own efficacy and the general efficacy of teaching.” The group most affected, she says, was novice teachers, which is important because research shows most teachers leave the profession in the first five years. “If we can use science to help teachers believe more in the power of teaching, that’s a huge contribution to the field of education.”

In her research, Hardiman has tested use of the arts in classroom lessons to improve retention of information: for example, having students in history class draw pictures, or put historical details into songs, or create imaginary personal letters from the people in the lesson. She and some of her postdoctoral fellows studied 100 children in a Baltimore city school; the experimental group received instruction with arts integration while the control group got the

same lesson content but without the art. The results were interesting. Tested shortly after the lessons, the arts group showed no better retention than the control group. But when the researchers tested the kids again three months later, they found those who had been taught content through the arts had retained significantly more than those taught through conventional instruction. Hardiman has a grant from the U.S. Department of Education to study arts integration in 16 more classrooms this autumn.

“We’re learning a lot about memory at the molecular level,” Hardiman says. “We know biologically something is happening. Now, do teachers need to know those biological mechanisms? No. But do they need to know that something is happening in a child’s brain when she remembers information, and that they can change that biology if they use certain techniques? That is what they need to know.”

**T**he Science of Learning Institute’s website currently links to 64 researchers. A glance at their projects suggests the scope of the institute’s disciplinary diversity. Randal Burns, an associate professor of computer science in the Whiting School of Engineering, is working on systems to help reverse engineer the neurophysiology of mammalian brains. Donald Geman, a professor of applied mathematics, works on statistical learning. Biomedical engineer Reza Shadmehr works on human movement control. Jacob Vogelstein at the Applied Physics Laboratory works on neuromorphic engineering—development of hardware systems that emulate the brain. Lisa Feigenson and Justin Halberda in Psychological and Brain Sciences study how infants learn. David Andrews, dean of the School of Education, researches individualized learning. Soojin Park, another cognitive scientist in the Krieger School, works on how the brain learns to recognize scenes. “I know when I walk into a room that it is an office, not a kitchen, and I know it is a familiar place that I’ve been,” she says. “These are things that we do automatically. I’m trying to find out how we do it. It’s actually an amazing ability.” She notes that seconds after she wakes up in the morning, her brain has perfectly oriented her. How?

The institute does not yet have plans for a dedicated building, though several of those involved in its creation point out the virtues of putting people from various disciplines in one place. Brenda Rapp, a professor of cognitive science in the Krieger School, says, “The physical distances between people at this university are an obstacle to collaboration. Just having to go across the breezeway is an obstacle. It reduces those sorts of encounters you have when you’re just getting coffee, which can be valuable as a basis to develop things. Brainstorming is a powerful mechanism. Sometimes you just need to work things out alone, but I see it all the time: I feel like I’ve really thought about something and I have some ideas, and then I go into my lab and start talking to a couple of people and we’ll make so much more progress. Because we’re not physically together, I think it’s less likely for that spontaneous thing to happen.”

The institute has begun making research grants. So far it has funded seven projects whose investigators work in an array of disciplines that exemplify the scope of its inquiry: neuroscience, neurology, psychology, computer science, cognitive science, biomedical engineering, mechanical engineering, applied mathematics, education, radiology, surgery, and biostatistics. The grants cover two years and have titles like “The Role of Astrocytes in Reward-based Learning,” “Cognitive, Neural, and Translational Implications of a New Reading Disorder,” and “Defining the Genetic Basis for Individual Differences in Learning.” Next January, the institute will host a two-day symposium to discuss issues such as critical periods for learning and math anxiety in the classroom.

If the institute does a better job of figuring out how the brain learns, perhaps it will be in part because it has mimicked the brain as an assemblage of distinct but interconnected constituent parts, each part performing a different function but contributing to a collective storehouse of knowledge, with new connections forming day by day. “Science proceeds by reductionism because that has been proven to be a useful approach,” Barry Gordon says. “But reductionism has an end point at which it may not work, in which case you need to look at a different frame, or a broader context. Rather than have



a whole bunch of individuals hacking at the problem separately, the institute gives us a chance to look at the bigger picture. It’s an attempt to apply the reductionist framework with error correction, because your colleagues will tell you when you’re doing it wrong and say, ‘Let’s try another way.’”

When talking about learning, Gordon brings up the work of Nobel laureate Eric Kandel. Kandel won the Nobel for his research on the neural system of *Aplysia*, a type of sea slug. To the extent that *Aplysia* can be said to think and learn, it does so with neurons and biochemistry similar to what is found in the human brain. “Sea slugs and us separated a long, long time ago in evolution, and no one suspected that the basic biochemistry had been conserved across so many species and gaps in biologic time,” Gordon says. “That implies to me that the magic of how we’re different, which includes how we learn, has to be in how everything is put together, not in the parts themselves being so much better. Sure, there has been some improvement in the hardware, but is that enough to explain why *Aplysia* is not conscious and learning? Why aren’t there schools full of *Aplysia* kids?”

Good question.

Dale Keiger, A&S ’11 (MLA), is the magazine’s associate editor.

# Empty Nest

**Michael George and Chad Lord have spent five years trying to adopt a child. They're not giving up.**

Rachel Stewart Johnson | PHOTOGRAPHY Stacy Zarin-Goldberg

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Michael George (right) and Chad Lord

**T**his fall, Michael George and Chad Lord mark a milestone: the fifth anniversary of their quest to adopt a newborn. After varied efforts and thousands of dollars, the married couple from Washington, D.C., remains childless.

Two spaces in their home sit unused: One is a nursery, fully furnished. The other is “Grandma’s apartment,” a basement unit the couple built for George’s mother, who intends to move in when a baby arrives. Preparing these rooms has been one way for George, SAIS ’03, and Lord to busy themselves as they wait for an infant.

Another way has been to work on the one task that might hasten the day they become fathers: trying to attract the notice of a birthmother who will choose them to parent her child. At least twice a week since they started the Facebook page “Chad and Mike’s Open Adoption,” the couple posts a new photograph to illustrate their lives. Some have captions that repeat a phrase: *We can’t wait to bring our child to watch the Nats play in person! We can’t wait to bring a little one here to sled! We can’t wait to enjoy family days at our local museums!* A portrait is painted of a quaint childhood: watching the backyard bunnies eat up the spring’s black-eyed Susans or swinging on a tree that the neighborhood kids call “Napoleon.”

As the sixth year of their journey begins, the men are still waiting. Says George, “There are those moments where you slow down and you start thinking, ‘When is this going to happen? What’s wrong with us?’”

A WASHINGTON POST/ABC poll conducted in March found that 70 percent of adults under age 40 support gay marriage. Thirteen states have legalized it, and the U.S. Supreme Court has ruled that gay married couples cannot be denied federal benefits. But gay couples trying to adopt children learn that both legal and cultural impediments still exist.

Most states lack legal protections to guard against favoring heterosexual parents over gays and lesbians in adoption and foster care placements, and the landscape has historically been unfriendly toward same-sex couples as parents. A 1977 law in Florida that stood for more than 30 years expressly forbade any homosexual person from adopting a child. Mississippi enacted a law in 2000, still standing, that forbids joint adoption by same-sex cou-

ples. A handful of other states have effectively blocked such adoption using less direct language, such as Utah’s prohibition of adoption by anyone cohabiting outside a legally valid marriage. Emily Hecht-McGowan of the Family Equality Council says her organization receives frequent requests for help from same-sex couples seeking to adopt. The lack of legal protections are often to blame. She explains, “Even in places where they don’t encounter bias or stigma outright, if there’s a same-sex couple that wants to create a family in a state where it’s not statutorily mandated—if it’s not written into the law that unmarried couples can petition to jointly adopt children—only one of those people can adopt the child. So in those cases, the child only has a legal relationship with one parent.”

The Family Equality Council is among several advocacy organizations backing a federal fix: the Every Child Deserves a Family Act. Reintroduced in Congress this year after it was first sponsored by lawmakers in 2009, the law would prohibit the use of sexual orientation or marital status as a criterion for placing a child with foster or adoptive parents. Although the measure would ease bias against same-sex families, advocates don’t expect it to pass soon. “But it’s been a great opportunity to do education on this issue,” Hecht-McGowan offers. “When the time is right, we’ll be able to move it.”

Legal problems for gay and lesbian parents extend beyond U.S. borders. Although international adoptions are now in decline for Americans overall, this route was long a viable path to parenthood for many. The narrowing opportunity has already been effectively cut off for the gay community. Dawn Davenport, executive director of Creating a Family, a nonprofit education and advocacy organization, advises against a gay or lesbian couple trying an out-of-country arrangement. “Quite frankly, it’s not usually a good choice because most foreign countries do not knowingly place a child with homosexual parents,” she says.

Then there is the lingering problem of a culture long imbued with the belief that children need the complementary roles that mothers and fathers provide. “Virtually every birthmother who comes to us with an adoption plan, the reason she’s making a plan is because she wants her child to have a mother and a father,” says Charles Anderson, director of professional services for the New Mexico Christian Children’s Home. Anderson did

not say he would turn away a gay couple seeking to adopt. He simply would offer little optimism that they could make it out of the pool of candidates.

The Catholic Church has been an opponent of same-sex adoption. Catholic Charities USA shut down its state-supported foster care and adoption programs in Illinois in 2011 rather than comply with a newly passed state law prohibiting bias against the gay community in the placement of children. In March of this year, Bishop David J. Malloy of the Diocese of Rockford issued a letter in which he called the state's progress toward legalizing same-sex marriage a "deplorable misstep." He went on to cite the impact on children, "who have a right to a mother and a father." Penny Wiegert, editor of the Catholic newspaper *The Observer* and director of communications for the Rockford Diocese, wrote in an email correspondence that the diocese "really had no other ethical choice" but to discontinue state-funded adoptions. It was morality over practicality. "The decision was a sacrifice," she added.

**G**eorge and Lord received a mixed response early in their adoption journey. "There are a lot of adoption agencies out there that are religiously based," says George. "We had talked to a few—some of them had said, 'We'll work with you, but you're roommates to us.' Several other adoption agencies never even returned our phone calls." They eventually chose the Independent Adoption Center, an adoption facilitator that touts its inclusivity. "At that point, we'd been together eight years, and we were in our late 30s, and we thought, we're too old to pretend," George says. "We said we have to find an adoption agency that will not only tolerate us being in their pool but will celebrate it."

Once they signed on with an adoption agency, they next needed to complete a home study process to show they could provide a fit home for a child. Home study—which any potential adoptive parents must complete—includes a battery of assessments, such as in-person interviews, financial reports, and home inspections. It is also meant to prepare and educate prospective parents. This process lagged for George and Lord, in what the couple considers random misfortune. The social worker assigned to their case left her

position before their file was complete. A second individual then caused a delay when a report went missing. "We were unlucky," says Lord.

More than a year later, having completed the home study, the couple found themselves largely on their own to tackle the biggest obstacle: making themselves known to prospective birthmothers. For most adoptive parents these days, that means more than simply waiting for a phone call. Birthmother searches now crisscross social media, with those who are well-resourced achieving results that take on the look of a marketing campaign: YouTube videos, toll-free phone numbers, jazzy personal websites with domain names like *adoptyourbaby.org* or *gayadoptivedads.com*. "It's like opening a small business," George says. Third-party professionals now pitch their services to adoption hopefuls, offering help setting up a website, for example, or creating an eye-catching profile.

"I came into this with a preconceived notion of an agency that was going to help walk us through this," Lord says. "But the truth is, it's independent. So it didn't quite click at first what that meant. It's been kind of shocking to me how much marketing we need to do, and that's not our strong suit."

George agrees that there is a mismatch between the self-promotion that now characterizes birthmother searches and the introverted natures that he and Lord share. "That's another thing that we didn't realize getting into this—how much more vulnerable you are when you have to expose this very private issue of starting a family with as large an audience as possible," he says. And then there are the heartbreaks. In 2011, a pregnant woman contacted George and Lord and led them to believe she'd chosen them to adopt her unborn child. They traveled out of the D.C. area to meet her. They stepped up their preparations, furnishing the nursery and purchasing an infant car seat. Not long before the woman's due date, she stopped returning their calls and emails.

Then the couple fell victim to a hoax in July of this year, when another woman contacted them, claiming to be scheduled for a C-section the following week. Scams targeting prospective adoptive parents are not uncommon, and agencies do have some safeguards in place to detect them. The men had been told to be wary of women claiming to be pregnant with twins. This call? A triplet pregnancy, they were told. Despite

**Birthmother searches now crisscross social media, with those who are well-resourced achieving results that take on the look of a marketing campaign.**

the warnings, they believed her. “Triplets seemed so extraordinary that we wondered why anyone would make that up,” says George. Most convincingly, in George and Lord’s view, she emailed them an ultrasound image.

It was the adoption counselors at the Independent Adoption Center who uncovered the hoax, after two days of what George called a “flurry of excitement.” The same ultrasound image could be found via an Internet search. The experience led George and Lord to look back on their extended contact with the expectant mother two years prior. Could that have been a scam as well?

**M**ichael George grew up as the only child of a single mother in Rolla, Missouri. “I was a latch-key kid, like a lot of kids were at that time,” he says. He and his friends rode their bikes everywhere, built collections of Star Wars action figures, and swam in the city pool. He had a beagle named Buster. “I was a band geek,” says George. “And not even a very good one. I’d get out my trombone, probably to the collective groan of my entire neighborhood. In the winters we’d keep Buster inside the house, and he would howl next to me when I played.”

George was interested in a wider world. He eventually chose a move west to attend Pomona College in California. When the opportunity arose to spend a summer in Russia, the kid from the Ozarks took it. George also spent a semester in Prague and a summer in London before earning his bachelor’s degree in international relations. Next came a tour with the Peace Corps in Armenia. He moved to Washington, D.C., to work toward his master’s degree, also in international relations, at the Paul H. Nitze School of Advanced International Studies, taking classes in the evening while working for the U. S. Department of State. In 2000, a friend introduced him to Chad Lord.

Lord, now a lobbyist with the National Parks Conservation Association, was another small-town product, who also had a childhood dog named Buster. He moved from his home state of Minnesota to D.C. as a young man and began his career working in HIV/AIDS advocacy. His first full-time job was with the Human Rights Campaign.

George tries to capture what made an early date for the two memorable, recalling how Lord

surprised him by waiting with a flower outside a classroom building. “This was one of my favorite moments with Chad,” George says. “I had just finished a long day at work, and then studying in classes, and I was tired. And to go outside—it was a complete surprise to me that Chad was waiting there with that flower. It was so sweet.”

Over the evening that followed, Lord mentioned that he wanted to have children some day. For earlier generations of gay men, marriage and parenting weren’t typically in the plan. As a boy, George assumed he’d be a father one day, but that early notion changed when he came out during college. “In the ’90s, the gay story was very much about personal acceptance,” he says. “The thought was, you weren’t going to ever get married, you weren’t going to ever have kids, but you might finally be accepted by your family and friends, you might have happiness in your personal relationship.”

The couple became legal domestic partners in 2004. When the District of Columbia legalized same-sex marriage in 2010, they knew they would marry. Still, together at that point for a decade and sporting rings since their partnership was legally recognized years earlier, they viewed the marriage license as a formality. Persuaded to plan an event in which others could share, they wed in 2011 in the living room of their newly purchased Dutch Colonial home in D.C.’s Friendship Heights.

EVERY YEAR, THERE are parts of the couple’s adoption file that expire and must be redone. As their investment of time and resources grows, and as they inch further into their 40s, there have been times when the men have considered ending the search. One such moment arrived last year. “We were really considering over the fall and winter whether we were going to renew our home study or not—whether we were going to continue with adoption,” says George. “We’ve had some big discussions and decided, no, this is something that’s really important to us.”

The couple suspects they’ve been too cautious. They’ve considered altering the criteria they’ve established for a birthmother, inviting the possibility of a child with alcohol or drug exposure, a family history of mental illness, or other developmental concerns. Johns Hopkins sociologist Andrew Cherlin puts it bluntly: “Sometimes gay men are left to adopt the chil-



**“We want a baby. We want a family. We want kids. We’re going to be good dads.”**

Chad Lord

dren that no one else really wants.” Again committed to sticking it out, the two are devising a plan to purchase ad space on Facebook, something they have done in the past. They are encouraged by the fact that the number of fans of their page surged recently, exceeding 450.

David Wing-Kovarik, executive director and CEO of Families Like Ours, another nonprofit that supports the adoption community, urges caution. All that Internet marketing, he says, is not without risks. “I have not seen statistics that say one way or the other if it actually helps,” he explains. “For a lot of families, it can set them up for some heartache. They have to be really careful.” Not only can couples reveal too much about themselves, Wing-Kovarik warns, they can also create unrealistic expectations about their ability to find a birthmother. Lord and George may have felt that undertow. The woman who scammed them this year, they acknowledge, was among that recent surge of fans.

**E**arlier this year, when the U.S. Supreme Court heard arguments for landmark cases regarding same-sex marriage, Justice Antonin Scalia provided this comment early in the proceedings: “If you redefine marriage to include same-sex couples, you must permit adoption by same-sex couples, and there’s considerable disagreement among sociologists as to what the consequences of raising a child in a single-sex family—whether that is harmful to the child or not.”

The American Sociological Association disagrees. In the amicus brief it submitted to Scalia and his fellow justices, the ASA stated, “The clear and consistent consensus in the social science profession is that across a wide range of indicators, children fare just as well when they are raised by same-sex parents when compared to children raised by opposite-sex parents.”

That sort of willful blindness doesn’t surprise Charlotte Patterson, a psychology professor at the University of Virginia. She is an expert in the psychology of sexual orientation, with her first published work on the children of gay and lesbian parents appearing more than 20 years ago. She and others have examined numerous child outcomes and have never reported that knowing the sexual orientation of a child’s parents can be used

as a predictor of how that child will do. Instead, children of gay parents are subject to the same influences as children of heterosexual couples. “The factors that affect all children’s development affect the development of children with lesbian and gay parents—economic factors are important, for example,” Patterson says. Interest in the field has long since moved beyond addressing whether same-sex couples can make good parents to the finer-grained questions of how they typically parent. There is nothing about being homosexual that makes one ill-suited for parenthood, Patterson says. “I don’t really see that as a debatable conclusion today,” Patterson says.

Cherlin believes that the saga that Lord and George are experiencing could prove to be an asset for their child. He has noted a particular doggedness that characterizes gay men who achieve parenthood. “Only the ones who really want to adopt children end up doing it because it’s such a difficult process,” he says. “So those gay men are committed parents, and often do an excellent job.”

As George and Lord wait to be given that chance, their friends watch and wait with them. Ann Brickley, who sees the couple frequently, says the men don’t often bring up the topic. “They’re not ones to go on complaining about their lives,” she says. They supported her as she and her husband welcomed their first child last year, betraying no resentment of her pregnancy. “They’ve been gentlemen,” she says. She speculates on the emotions involved in their wait. “I think there’s probably a process of grieving that they go through.”

“They just keep putting themselves out there,” says Katherine Atherton-Wood, a longtime friend and herself an adoptive parent. A follower of the couple’s Facebook page made a mistake not long ago in response to a photo of the men with a baby: “Finally! Good for you and congrats. What a lucky baby.” But the baby was Brickley’s child. “Thanks,” George responded. “She is actually our friend’s daughter. Which in our book makes her one lucky baby. But we’re still hoping to find the right birthmother.”

It’s always a friend’s daughter, always a niece or a nephew. George and Lord—a couple with an unfinished love story—press on. “We want a baby. We want a family. We want kids,” Lord says. “We’re going to be good dads.”

Rachel Stewart Johnson is a freelance writer based in San Diego County.



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# sweat equity

***Champions are not born.  
They are made on the practice field.***

STORY AND PHOTOGRAPHY Dale Keiger



**O**

n a Saturday night in April 2004, I stood taking notes in the Johns Hopkins lacrosse locker room. The Blue Jays had just defeated the University of Maryland in the 100th renewal of the biggest rivalry in men's intercollegiate lacrosse. Addressing his happy team, head coach Dave

Pietramala said, "This game wasn't won tonight. This game was won last Tuesday in that first ground-ball drill."

That is, the game was won in practice. We routinely speak of athletes playing a game. He plays football. She plays field hockey. But a varsity runner or point guard or swimmer or shortstop does not play anywhere near as much as he or she practices. A starter on the Johns Hopkins football team plays one game per week during the regular season. He might be on the field for 25 to 30 minutes of actual game time between kickoff and the final whistle. But in the week leading up to





Athletes spend 20, 40, 60 minutes preparing for every minute of competition, and that's if they get to play.





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swimming, football, tennis,  
basketball, field hockey, wrestling





that game, he may have spent 10 to 15 hours on the practice field and in the weight room. Swimmers often train twice a day, around two hours per session; if you're a sprinter, your event in a swim meet may last less than two minutes—less than 30 seconds if you are a 50-yard freestyler. Athletes spend 20, 40, 60 minutes preparing for every minute of competition, and that's if they get to play. Every team sport has reserves who are rarely called off the bench to enter the game. But they practice as much as the starters. Practice is what athletes do.

I spent nine months documenting the practice of every Johns Hopkins varsity sport, 22 teams and 14 sports in all. A Hopkins athlete has virtually no chance of a pro contract or lucrative endorsement deal or spot on the Olympic team after graduation. Outside of lacrosse, no Hopkins athlete plays a sport in exchange for a scholarship. They play because they love the game and love being part of a team, and because of a vital quirk in human nature: Once we realize we can do something really well, we want to do it again and again, and we want to see just how good we can get. Even if it requires exhausting work, a high

tolerance for monotony and frustration and a hollering coach, and endless drilling to master a thousand details that spectators rarely appreciate.

What lingers in my mind as I review these pictures are things like the routine endurance of runners. The ferocity of football players in the weight room, or of women lacrosse players running drills against each other. The sheer capacity for work of swimmers. The pound-for-pound power of wrestlers. The hardness of the field hockey ball that skipped off wet turf and smacked into my shin one night. The ever-present sweat and pain. After only a few weeks of each sport's season, players began showing up for workouts with bandages and braces and ice packs, sometimes with slings and crutches. They often looked dazed with fatigue at the end of practice. The next day, they did it all again.

Tennis champion Serena Williams recently told a writer from *Rolling Stone*, "When I stop playing, it's not going to be because I'm sick of it. It's going to be because I'm sick of practicing."

That sound you hear is a couple hundred Johns Hopkins athletes nodding their heads.

Dale Keiger, A&S '11 (MLA), is the magazine's associate editor.





**It's not simply a matter of figuring out how to alleviate the financial stress of publishing. The problem involves an entire reconsideration of how academia talks to itself.**

led by Daniel Webster and Jon Vernick, directors of the Johns Hopkins Center for Gun Policy and Research, that produced a list of evidence-based reforms—concerning background checks, dealer licensing, research funding, and more. The summit stirred an already heated debate and was touted by its organizers as the most extensive meeting of its kind.

Something more quietly impressive came out of it. Two weeks after the summit, Johns Hopkins University Press released *Reducing Gun Violence in America: Informing Policy with Evidence and Analysis*, edited by Webster and Vernick. The first “instant book” in the Press’ history, it was issued as an initial run of 5,000 printed copies and as an e-book. To Dean Smith and Wendy Queen—respectively director and associate director of Project MUSE, the Press’ platform for providing digital humanities and social science books and journals to university libraries—the accelerated production of *Gun Violence* offers a practical example of how academic presses might reinvigorate themselves as they trundle toward the future. In this case, the Press was participating in an extended journalistic enterprise, says Queen. “It’s the long, long form of journalism in a short, short time.”

She and Smith are in a unique position to comment on the current state of academic publishing. Project MUSE was created in 1995 as a collaboration between academic presses and research libraries, and it is one of the earliest online distribution platforms for academic content. Today, subscribing libraries have access to more than 580 titles from more than 200 worldwide academic publishers. In January 2012, MUSE partnered with the University Press e-book Consortium to launch the University Press Content Consortium, which provides a similar distribution model for e-books. By the end of 2013, 91 presses will be participating with the service.

Historically, academic presses publish books and monographs, which lose money, and journals, which make enough money to support the book/monograph enterprise. But those objects are artifacts of a different era. Smith and Queen helped shape MUSE to be format-neutral: The platform doesn’t care whether content comes from a book or journal; it just directs users to the topics they’re researching.

“Our mission is connecting users with content, whether it’s publisher services, expanding content, new business models to get it out, or tools for our libraries to help them focus on the content,” Queen says. “But in the end, all of those things feed right back into the mission. And it’s fun now because it used to be one road and now there’s a complex highway system.”

*Fun* isn’t a word usually associated with academic publishing. *Crisis* is. Specifically, the crisis arising from the fact that library budgets can’t keep pace with the ever-rising costs of journal subscriptions. It has been a topic of scholarly discussion for a couple of decades now; in the past two years, though, the discussion has moved more into the mainstream.

In January 2012, University of Cambridge mathematician Timothy Gowers wrote a blog post that was discussed in *The New York Times*, *The Independent* (London), *The Sunday Times*, *New Scientist*, and *The Guardian*. He called for fellow mathematicians to boycott Elsevier, the Amsterdam-based publishing arm of Reed Elsevier that produces more than 2,000 science, medical, and engineering journals. His reason: Not only do Elsevier’s rising costs put a mammoth strain on libraries’ budgets, but the company makes an absurd profit on them—a profit that in part relies on the unpaid labor of scholars and researchers in nonprofit universities. Reed Elsevier’s 2012 annual report shows Elsevier making more than \$1.3 billion in revenue with a profit of more than \$482 million. University and research libraries are publishers’ primary revenue streams, accounting for about 80 percent of sales. In 2012, Elsevier reported a profit margin of 37.8 percent.

Now, there’s nothing wrong with being profitable—it’s just that research universities and university presses are overwhelmingly nonprofits whose resources can’t keep up with the rising costs. Elsevier is also one of three large publishers, alongside Germany’s Springer and the United States’ John Wiley & Sons, that, according to an April 2012 *Guardian* article, “account for about 42 percent of all journal articles published.” Gowers’ boycott call catalyzed the launch of *The Cost of Knowledge* (<http://thecostofknowledge.com/>), a blog petition to Elsevier that had amassed more than 13,800 signatures by late August.

The most sobering reminder of this crisis came in April 2012 when the faculty advisory council of the Harvard Library issued a memo addressing the “untenable situation” of buying serials. The memo argues that “large journal publishers” have made the costs of providing researchers with the publications they need “financially unsustainable and academically restrictive.” The memo notes that the library’s annual journal costs are nearly \$3.75 million.

Project MUSE’s Smith and Queen work with both publishers and libraries, and so they understand the various parties’ points of view. Publishers need revenue from journals to support their book and monograph publishing. The rising cost of serials eats into libraries’ new book acquisitions, and their operating budgets are year to year flat or constricting. In the middle are the researchers and scholars themselves, whose tenure pursuits are tied to their published output. They create and consume the products publishers distribute and libraries archive.

Academic publishers, research university libraries, professional scholarly associations, and academics themselves around the country and globe are trying to figure out ways to deal with this crisis. But that’s not simply a matter of figuring out how to alleviate the financial stress of publishing. The problem involves an entire reconsideration of how academia talks to itself.

Earlier this year, *The Economist* dubbed this movement the “Academic Spring,” and scholars have voiced their concerns online. During the annual conference of the Association of American University Presses in June, tweets bearing the hashtag #aaup13 discussed ideas, cheered presenters, debated publishing models, and sometimes just asked for common sense. During a “Three Big Ideas in Publishing” plenary, one scholar made the simple plea: “As an author, I want to write good, important books that people read and that influence them. Help me do that.”

**A**ctually, as of 2012, the official Modern Language Association style for citing a tweet is: Bogost, Ian (ibogost). “11. As an author, I want to write good, important books that people read and that influ-

ence them. Help me do that. #aaup13 <EOF>” 21 May 2013, 10:19 a.m. Tweet.

That a major professional organization for language and literature scholars standardized a style for dealing with tweeted information is one of the many ways scholarly communication (the umbrella term for how academia talks to itself) is adjusting to the digital age. It’s a change in the very understanding of what makes up the academic work that scholars want to communicate. Can a blog, Tumblr, or YouTube channel be a rigorous form of serious scholarship? Can a tweet be used as argumentative evidence in a scholarly work? Does a Web page qualify as a dissertation?

“The scholarly communication conferences I attend often bring together publishers, librarians, scholars, scholarly societies, and other players in the process of thinking together about the changes we’re all collectively experiencing,” writes Kathleen Fitzpatrick, director of scholarly communication for the MLA, in an email interview. In 2009, Fitzpatrick posted her scholarly manuscript for open peer review online; it was eventually published as the book *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*, which NYU Press issued in 2011. (Her book is also available online.)

She is one of the more persuasive advocates for understanding digital scholarship, and she acknowledges that while tenure and academic career building are still tethered to being published, institutions are starting to rethink and redefine what form that scholarly work can take. “I’ve had discussions with several different campuses that are in the process of grappling with means of ensuring that digital work is evaluated fairly, of recognizing that publishing is taking place on many different platforms, but also acknowledging that digital publications are not, in many cases, just print publications that happen to be online, of addressing questions about collaboration and credit, and so forth,” she writes. “And yes, many campuses are absolutely thinking about the ways that the dissertation is changing in response to new technologies and new research methodologies. These changes aren’t taking place overnight, but they are happening; it’s a pretty exciting time.”

Ian Bogost, the above tweeter, is one of the researchers taking part in that process. He

particularly wants to help academic presses, which have been very good to him over his career. Chair of Media Studies and professor of interactive computing at the Georgia Institute of Technology, Bogost worked with the University Press of Minnesota for *Alien Phenomenology, or What It's Like to Be a Thing*, published in 2012,

reporter who heroically covers the intersection of scholarly communication and technology, called Bogost's "microrant" the "most provocative set of ideas to emerge from the session."

Each was a tweet-sized morsel of plain language:

"1. Publishers publish. Publicly. If I can do public intellectualism more easily at @TheAtlantic [*The Atlantic* magazine] or @newinquiry [online literary magazine *The New Inquiry*], something is wrong. #aaup13"

"3. Invent something new. There's a huge open space between trite trade non-fiction and scholarly esoterica. Fill it. #aaup13"

"9. If there is a 'dying' form it's not [the] book but the journal. What could we do to make technical, inter-field discourse not suck? #aaup13."

What's most disarming about Bogost's tweets is how reasonable they sound: Making anything involving communication "not suck" sounds like a no-brainer. Why can't scholarly communication—how the most highly educated people on the planet talk to each other, the improvement of which is possibly the lone subject on which they all agree—figure this out?

One reason it's so difficult to change the focus of the discussion around scholarly communication from economics to content is the sheer size and scope. Scholarly communication is academia's constantly purring engine. It might not be the first thing that springs to mind when prospective students visit colleges, or when emerging scholars are considering graduate schools and adjunct teaching opportunities, but without a vast communications network, the whole enterprise lurches and grinds its gears. Academia, according to the *Oxford English Dictionary*, is "the environment or community concerned with the pursuit of research, education, and scholarship." Those pursuits require scholars being able to communicate efficiently.

How they've done that has evolved alongside technology. In 1158, Roman Emperor Frederick Barbarossa issued the *Authentica habita*, which in part protected freedom of movement for scholars to communicate orally. In 1665, the Royal Society of London introduced *Philosophical Transactions of the Royal Society*, commonly hailed as the first science journal and one of the first publications designed to catalyze scholarly communication.



and with the MIT Press for *Persuasive Games: The Expressive Power of Video Games*, published in 2007. And during the "Three Big Ideas" plenary session, he offered some sobering words for what academic presses put out: "Scholarly books need to be better written. The writing is terrible."

He wasn't attending the conference, merely following the #aaup13 hashtag conversation, and he added his ideas to the discussion in a series of tweets. His commentary became one of the conference's more talked-about discussions. His tweets received a pretty typical popular social media half-life, being retweeted, Storified, and blogged about. Jennifer Howard, the *Chronicle of Higher Education*

Publications created a system: Researchers and scholars investigate and experiment and then publish their findings in academic journals, monographs, or books. Publishers, which may be university or private presses, then distribute that information to the interested parties, which are predominantly the libraries of research institutions. Libraries preserve and archive that information so that the scholars of today and tomorrow can access it and teach, discuss, build upon, re-evaluate, and dispute it. It's a system rooted in information existing as an object (book, journal, monograph) that communicates information linearly and requires physical archival storage.

That academia isn't so analog-bound is obvious; less so are the layers of complexity involved in the emerging digital system. EBSCO Information Services is one company that provides searchable research databases to college and university libraries, hospitals and medical institutions, and government institutions. It offers more than 375 databases that search more than 355,000 journals. Elsevier publishes more than 2,000 journals, from *Brachytherapy* to *Wound Medicine*. Project MUSE supplies its research libraries access to more than 550 journals, from *Advertising & Society Review* to *Visual Arts Research*. And the people involved—from journal editors, to reference librarians, abstracters, and indexers, to the researchers creating and consuming the work—form specialized communities.

The communities of *Brachytherapy* and *Visual Arts Research* probably don't overlap, save at a university, which brings together scholars and students across disciplines. The explosion of Internet access in the 1990s provided academics with a way of sharing their work outside of the traditional publishing route, and new kinds of journals began to emerge. Think of electronic journals and the open access publishing models those journals helped foster as the do-it-yourself record labels of academia. Motivated scholars and researchers could perform the duties typically performed by publishers—putting out calls for papers, having those papers peer reviewed by qualified scholars, performing the attendant copyediting and page layouts for Web pages, etc.—and publish the work without having to go through the typical production schedule of a publishing house or incurring the print and overhead

costs of a physical journal. And it could post these articles online for anybody to read free of charge.

Of course, for a small record label, making a CD independently is only half the battle. There's also distribution—the need to let fans know about it and to make it available for purchase. Meanwhile, a major record company already has contacts with clubs and arenas to put tours together, knows station managers at radio stations to get airplay, has relationships with major retailers, and so on.

That's admittedly an imperfect analogy, but it's indicative of sizes and philosophies of the systems involved. One is very large and relies on a pre-existing infrastructure; the other is emergent and idealistic and doing it only for the music, man. By eliminating some of the costs of traditional journals and involving communities already invested in their subject matter, open access publishing appears to provide a possible way out of the financial burden of the traditional model. That's why a good deal of open access advocacy has come from campuses, including from faculty, students, researchers, and librarians. "I'm really surprised this whole conversation [about academic publishing and open access] didn't start immediately after the Internet became viable and most of the universities had it," says Robin Sinn, the librarian for biology, biophysics, cognitive science, and psychological and brain sciences, of the Johns Hopkins Sheridan Libraries. "Why don't the editors, who are generally faculty, and the reviewers, who are generally faculty, and the authors, who are almost always faculty or government researchers—why don't they just [publish] on their own and not deal with the publishers?"

However, Sinn explains that such an idea doesn't account for a publishing infrastructure that includes server space, technicians, and indexers and abstracters who perform the data tasks that support findability—the people who pull journal literature together, assign keywords to articles, and control that vocabulary. That's no small undertaking: PubMed, the free database of biomedical sciences maintained by the National Institutes of Health and the United States National Library of Medicine, contains 22 million citations; 591,054 were added in 2012.

If everything is posted somewhere online and freely available, will it be readily found by the

**“Publishers publish. Publicly. If I can do public intellectualism more easily @ TheAtlantic or @newinquiry, something is wrong. #aaup13”**

Ian Bogost

researchers looking for it? Maybe. In 2004 Google introduced Google Scholar, designed to be a search engine specific to scholarly material. “Google Scholar is good, but the problem is they won’t tell you what they cover, so you don’t know what they don’t cover,” Sinn says. She brings up PyschINFO, a database created and maintained by the American Psychological Association that indexes articles and book chapters in psychology and psychiatry. “If you go to its website and click on a link, it will download an Excel spreadsheet that tells you every journal they index and what years they index and whether they do every article in the journal or only those articles that deal with psychology, so at least you know what you’re searching. With Google Scholar, you can’t.”

“You’re going to win or lose [depending on] whether you’re discoverable on Google or not,” says Project MUSE Director Dean Smith, who says that 70–80 percent of MUSE’s traffic is driven by the search engine. “That’s critical to your survival, even for a university press. You need to be more concerned about your metadata than anything else right now. It’s like that [television] commercial, ‘It’s 11 o’clock, where are your children?’ It’s the same thing—it’s 2013, where’s your metadata? That’s really, to me, going to be the game changer.”

**F**indability is merely one hurdle open access publishing models have to address. Currently, archiving is primarily approached in two different ways. In one, called the green model, a researcher publishes a paper through a traditional publisher and then also posts the work to a publicly available repository of some kind, a self-archiving process. In the other, called the gold model, a researcher pays—either personally or using funds from the department, the university, the library, or a research grant—an open access journal to publish the article free of charge; the fee ostensibly covers the archival process that ensures the work can be found in the appropriate databases. This pay-to-publish model, however, has created opportunities where researchers can be misled.

In 2008, Jeffrey Beall, the scholarly initiatives librarian at Auraria Library in Denver, started noticing the spam emails he received from open access

journals looking for authors who wanted to be published—for a fee. He kept track of the spam submission calls, and in 2009, began writing about these seemingly dodgy journals. One review eventually turned into a blog, where Beall developed criteria for determining whether a journal is reputable. Those criteria include codes of conduct outlined by the Open Access Scholarly Publishers Association, the Committee on Publication Ethics, the International Association of Scientific, Technical and Medical Publishers, and an analysis of publishers’ content, practices, and websites. Beall’s criteria and types of questionable practices—from an utter lack of copyediting to requesting the copyright transfer of the work upon submission of the manuscript—now form an epic list at Scholarly Open Access ([scholarlyoa.com/publishers](http://scholarlyoa.com/publishers)), where he reviews and reports on these journals. Since 2010, he has assembled a list of questionable, predatory publishers; last updated July 20, 2013, it includes nearly 400 publishers.

“Predatory publishers are poisoning the whole entire [open access] model,” he says. “The model itself is being conducted very well by a few publishers. But I’ve been able to document that one open access publisher, Hindawi, which is based in Cairo, actually has a profit margin higher than Elsevier does.”

Worse, Beall recognizes that shady business practices in academic publishing enable bad scholarship. “Peer review is the quality control for science, and these publishers aren’t conducting peer reviews,” he says. “So pseudoscience and non-science are being published bearing the imprimatur of science. That’s the biggest threat, the threat to science itself.”

That may be the biggest collateral damage in scholarly communication’s inertia to reinvent itself: It has produced a common business opportunity for companies that have no stake in the knowledge system. “The cost of doing really good scholarly publishing is never going to be cheap and it’s never going to be free,” Beall says. “And the open access people, I think, are misleading people when they say that open access makes everything cheaper. It’s doesn’t, it’s just going to be shifting the costs around.”

To Bogost, the open access discussion should be about the content, not the costs. In his tweeted microrant, he argued: “The issue isn’t ‘openness,’

but getting the right work into the right eyeballs.” It’s another way of acknowledging what Queen says about MUSE’s mission to connect users with content. “As my career has progressed, I’ve become more and more interested in the problem of publishing as one of making things public,” Bogost writes in an email. “So whatever I can do to make more things more productively public in the best manner, that’s what I want to pursue. That includes writing for more general readership publications, but also starting up new publishing venues that cross over.”

In the email, he points to his recent project, *Object Lessons* (<http://objectsofobjects.com>), an essay and book series about “the hidden lives of ordinary things.” From the homepage, visitors can click through to read the essays, which are cross-posted on *The Atlantic*’s technology channel, or the books (to be published by Bloomsbury)—or pitch an essay. “I think more academic publishers are going to start experimenting in the ways I’ve been suggesting,” Bogost writes. “I know Minnesota, one of my publishers, has been working on some novel ideas, and I know others are too. But there are other houses that are steadfast in their lack of interest in changing anything.”

Project MUSE has spent the past two decades building its online community, and it understands that in order for its publishing venture to continue to evolve, it needs a distribution platform and it needs to know how libraries and researchers are using its content. One potential idea Smith mentions is for MUSE to publish individual works of scholarship—not simply works attached to a journal or book. “I do think Project MUSE is uniquely situated to begin to take monographic content of a certain length from emerging scholars and put that online, provided we could get over that tenure issue,” he says. “Why wouldn’t we try to provide a pathway for scholarship to come here?”

That’s a prescient understanding that the publishers need to follow the content—how it’s being used and created by the scholars and researchers of tomorrow. “I think the younger generations are curating content any way they want,” Smith continues. “These containers that we’ve created”—meaning book, journal, monograph—“I don’t know how long they’re going to



be here, if you look at the things that can be done and some of the things the younger researchers are doing and are capable of doing.”

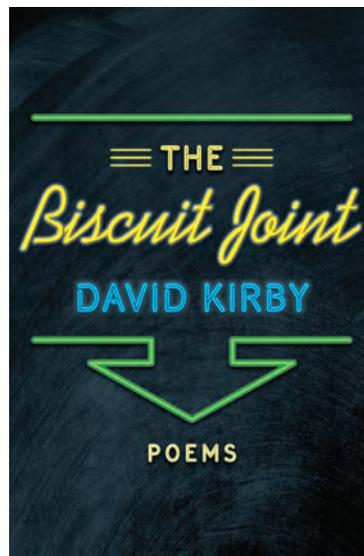
One of Smith’s positions prior to coming to Project MUSE in 2012 was with the American Chemical Society, where he managed global access to its publications. He recalls when rich site summary (RSS) Web feeds first started to appear, chemical researchers immediately started using them to share information—before RSS readers/aggregators were readily available. “Our R&D guy called me up to his office and said, ‘Look, they’re already doing it; they already figured out how to get the content there without us helping them,’” Smith says. “The content was that important. And that gives you an idea of how you have to have quality content. That’s really the first thing, because you’re going to be able to make a lot of different decisions down the road if the content is what your community wants.”

Bret McCabe, A&S '94, is the magazine’s senior writer.



### The Biscuit Joint

David Kirby



#### POETRY

## Art of the Everyday

“I’m the poet of circuses/ but also art galleries and snacks,” claims David Kirby in his new collection, *The Biscuit Joint* (Louisiana University Press, 2013) and, really now, why be the poet of anything else? Florida State University English Professor Kirby, A&S ’69 (PhD), has spent four decades peeling the banana of everyday life to bite into its flesh in language that once might’ve been called the vernacular. In Kirby’s fine-honed lines, though, the colloquial becomes expressive, pliable, and potent. Kirby’s ear appreciates the casual elegance in the abbreviated, impromptu way we talk, and he polishes the seemingly mundane until his lines land with equal parts barroom brio and libretto majesty.

The carpenter’s skill invoked by the book’s title uses a wafer of wood to create a tight fit between two boards.

Done successfully, it creates a seamless fit, and the idea informs Kirby’s verbal moves inside the 19 poems here. He skips from Karl Marx to *Paradise Lost* to tuna melts without derailing a discussion of the aesthetic experience (“What’s the Plan, Artists?”) and swings from tacky T-shirts to Thomas Hardy while mapping the creative imagination (“I ♥ Hot Moms”).

Kirby has long threaded brows high and low into the same sentence, recognizing that it’s pointless to sustain the artificial gulf between them. Besides, hot moms go to the symphony, too. For Kirby, what separates the banal from the beatific is the language we use to describe them. And with *The Biscuit Joint*, he pens a persuasive argument that life is essentially trivial and monumentally important simultaneously: Major events and prosaic routines run together like unpunctuated sentences; they’re turned into our experiences in memory’s editing room. In “Breathless,” Kirby uses an ode to Jean-Paul Belmondo, that icon of French New Wave cool, to kneecap the self-deprecation that young men use as macho armor, spotlighting the narcissism required to take pride in claiming “to be the biggest jackass in your town.” By the poem’s end, though, this witty homage to a man who was “awesome” before “that word was used mainly/ to describe pizza” becomes a lament of time’s passing—the recognition that our own creative prime passes too quickly and it’s always too soon to ask: How do you know when to stop? Hopefully, Kirby won’t anytime soon.

Bret McCabe



### Activities

John Dermot Woods



#### COMICS

## Drawn From Life

John Dermot Woods’ collection of comics, *Activities* (Publishing Genius, 2013), showcases a storyteller as compactly disorienting as Amy Hempel and a comic artist as visually astute as Dylan Horrocks. In this slender volume, Woods, A&S ’02 (MS), explores relationship anomie through a backyard rocket ship (“Try to Sleep”) and the inherent chasm separating children’s and adults’ realities through a tale of a father and daughter searching for animal bones (“The Remains”). It’s a quietly impressive collection, not only for Woods’ thematic range but his ambition. In addition to using multiple drawing styles, four stories collage texts from different sources—a Dada manifesto, a Rod McKuen poem, a personal text message, etc.—into speculative fictions of disarming poignancy. **BM**



**Une Belle Maison**  
S. Frederick Starr



**HISTORIC PRESERVATION**

**This Old House**

S. Frederick Starr is chairman of the Paul H. Nitze School of Advanced International Studies' Central Asia-Caucasus Institute and a prolific author on the region. He also has a deep tie to New Orleans: He's a clarinetist who founded the Louisiana Repertory Jazz Ensemble and an engaging cultural historian of the Crescent City's vibrant past. His new *Une Belle Maison: The Lombard Plantation House in New Orleans's Bywater* (University Press of Mississippi, 2013) tells the story of the Ninth Ward's Bywater neighborhood through a single home: Starr's Lombard Plantation House. Built in 1826, the home has witnessed the agricultural 19th century, 20th-century urbanization, the calamity of Hurricane Katrina, and the civic renewal that followed. A richly told look at one of America's most vital cities. **BM**

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## ...Deborah Bräutigam

### Hollis Interviews

**Deborah Bräutigam**  
Professor of international  
development and  
comparative politics



.....  
**Hollis Robbins**, A&S '83, is chair of the Humanities Department at the Peabody Institute; she teaches courses in literature, drama, film, and aesthetics. She has a joint appointment in the Center for Africana Studies at Homewood, where she teaches African-American poetry and civil rights.

**Blog:** [www.chinaafricarealstory.com](http://www.chinaafricarealstory.com)

**Favorite music:** Loon calls on a dark lake

**Worst close call:** Catching a lift from Istanbul to Tehran with two guys who turned out to be car smugglers

**Currently reading:** *Wolf Hall*, by Hilary Mantel

**Favorite comedy:** *My Cousin Vinny*

**I've read that Bill Gates was so taken with your book *The Dragon's Gift: The Real Story of China in Africa* (Oxford University Press, 2010) that he wanted to meet you and discuss it.**

Yes! He was traveling in China and wanted to talk with me about my research and about the work of his foundation. He clearly had read my book and asked a lot of very good questions. The dinner, which was supposed to be fairly short, lasted nearly three hours. As I said on my blog, if it had been a seminar, I would have given him an A.

**Much of your work on your excellent blog is devoted to addressing misunderstandings and misperceptions about China's role in Africa.**

There's a big gap between what people think they know about China in Africa and the reality. A lot of people think that China arrived in Africa recently, although they've been there since the 1960s. There's the assumption that Chinese firms won't hire African workers (not true) or that China's presence is a kind of "new colonialism" (not true). Headlines get the number of China's embassies in Africa wrong (50, not 41), and the amount of aid and investment are regularly way

overestimated. Everyone views China through his or her own lens. Many people assume China's presence is simply a gold rush or being driven by a land grab mentality, but, like ours, it's far more complex.

During the early era of the Non-aligned Movement in the 1960s, China sent aid to a number of Africa's newly independent nations. Then, China's approach to aid was primarily cooperative rather than economic: providing assistance as part of the "socialist brotherhood" rather than building trade relations. But it was also political. Recall that the People's Republic of China was not admitted to the United Nations until 1971; many of the key votes came from African nations who had received aid from China.

**Your new book project is called "Feeding Frenzy"—I take it that the title only partly refers to China in Africa?**

Yes; I'm just back from doing fieldwork in Zimbabwe and Zambia. The focus of this book is on the role of the Chinese in African agriculture and food security, the belief—for which there is very little evidence—that they are leading the "land grab" in Africa. That's the "feeding" part, but of course it has a double meaning. There is a kind of media "feeding frenzy," a fascination with what is seen as the "dark side" of the Chinese in Africa.

**You are the director of the International Development Program. What does that involve?**

IDEV has more than a hundred master's degree students in Washington and Bologna. I'm responsible for our curriculum



and requirements, and I decide, with my colleagues, how to prepare students for professional careers that allow them to work creatively to help solve local and global problems: poverty, food security, inclusion. Our focus is on vulnerable populations—fragile states. And I'm still teaching. This year, my courses focus on

governance and development strategies. Next year, I'll be adding a seminar on China and the developing world.

**Did you always know you wanted to work in academia?**

I come from a family of academics. I grew up in Wisconsin, where my

parents were in graduate school. Both of my grandfathers were professors. And I always knew I wanted to travel. My grandmother's sister, Bethel Fleming, was a medical doctor and missionary who established a hospital in Nepal. Her husband, the ornithologist Robert Fleming, wrote *Birds of Nepal*. I was a British studies major in college and traveled around the world for nearly four years afterward, working in Jordan for several months, trying to learn Arabic and then traveling across Iran and Afghanistan to visit my relatives in Nepal. I lived in Thailand for a year and taught English. I spent a summer in Hong Kong to learn Chinese and I absolutely fell in love with the language. I moved to Taiwan for another year of intensive language study.

**What do you do when you aren't writing, teaching, and traveling?**

I used to spend serious time as a white-water kayaker, but lately I've been doing more hiking—and I actually manage to hike quite a bit in Africa. Last year, my husband and I hiked in the Drakensberg Mountains in the eastern part of South Africa. There are some absolutely beautiful trails.

**Is there good white-water kayaking in Africa?**

Yes, there are Class V rapids on the Zambezi River, but so far I haven't tackled them. The crocodiles and hippos complicate things!

.....  
**Deborah Bräutigam** is a professor of international development and comparative politics and director of the International Development Program at the Paul H. Nitze School of Advanced International Studies.

## Fast Tracking Invention

FastForward describes itself as a catalyst, a technology accelerator, an education center, and an innovation system. If that does not quite clear things up for you, try this: FastForward is the latest effort to take technological advances from Johns Hopkins laboratories and turn them into commercial ventures. Underwritten by the Whiting School of Engineering, FastForward offers qualified entrepreneurs access to expert assessment, business coaching, workspace, a shared laboratory, and help securing funding. The idea is to foster the convergence of ideas, technical skills, business savvy, money, and room to work. The goal? Bring intellectual property to market, accelerating the creation of new companies that will grow in Baltimore.

FastForward has outfitted the Stieff Building near the Homewood campus to accommodate 16 nascent companies. To qualify for the program, you need a Johns Hopkins connection, but that has been defined for maximum inclusion. Hopkins faculty, researchers, and students meet the criteria, obviously, but so do postdocs, alumni, and parents of students. There are two important stipulations—you must be incorporated and must have secured some outside funding, either seed money from federal or state sources or private venture investment.

Companies selected for FastForward get affordable office and lab space for up to two years; rent can be deferred as debt that the university can convert into an equity stake in the company. Once installed in the Stieff Building, the companies can avail themselves of shared laboratory equipment and a machine shop for the manufacture of prototypes. Intangible



resources include a network of FastForward staff, Hopkins faculty, and alumni who offer guidance on the practical aspects of licensing, patents, business plans, and whatever else entrepreneurs need to get a company off the ground. Outside investors will have the opportunity to put money into these new businesses through the Johns Hopkins Venture Fund.

John Fini, FastForward's director (and director of the Homewood Intellectual Property and Technology Commercialization Office), told the Johns Hopkins Hub, "It's already growing very, very fast. And that says something about Johns Hopkins' entrepreneurial spirit."

Three companies are now incubating in the FastForward nest. Hopkins

professor of computer science Gregory Hager co-founded Clear Guide Medical LLC to bring to market portable ultrasound technology for guiding biopsy needles. (Another of the co-founders, Dorothee Heisenberg, is also FastForward's venture coordinator.) Another startup, Circulomics Inc., plans to commercialize assays for molecular and biomarker analysis. Its founder and CEO, Kelvin Liu, Med '11 (PhD), graduated from Johns Hopkins with a doctorate in biomedical engineering. Twistnostics LLC, the third company, is working on genotyping technology for medical diagnosis using work begun by its founder, Alfredo Celedon, Engr '09 (PhD), when he was a Hopkins graduate student studying the mechanical properties of DNA. Dale Keiger

## Local Teens in the Lab

When 17-year-old Candice Jennings heads off to college, she will already be an old hand at the research bench. The Baltimore teen, who wants to be an anesthesiologist, has spent two summers working alongside faculty and students in Johns Hopkins laboratories as part of the university's Biophysics Research for Baltimore Teens. "Now I know what to expect when I get to medical school, since I'm working in a lab," she says. "It gives me a general idea of what it's like to work with a group of people, how to deal with different personalities, and how to analyze data."

The BRBT program, in its second year, is a paid summer internship that each year gives four high school

students from low-income communities experience in university-level biomedical lab work. "This is not just a summer science camp where we have fun and do little experiments," says Jungsan Sohn, the program's director and an assistant professor in the School of Medicine. "This is something where we try to help with career development. The kind of research they do, it's quite cutting-edge."

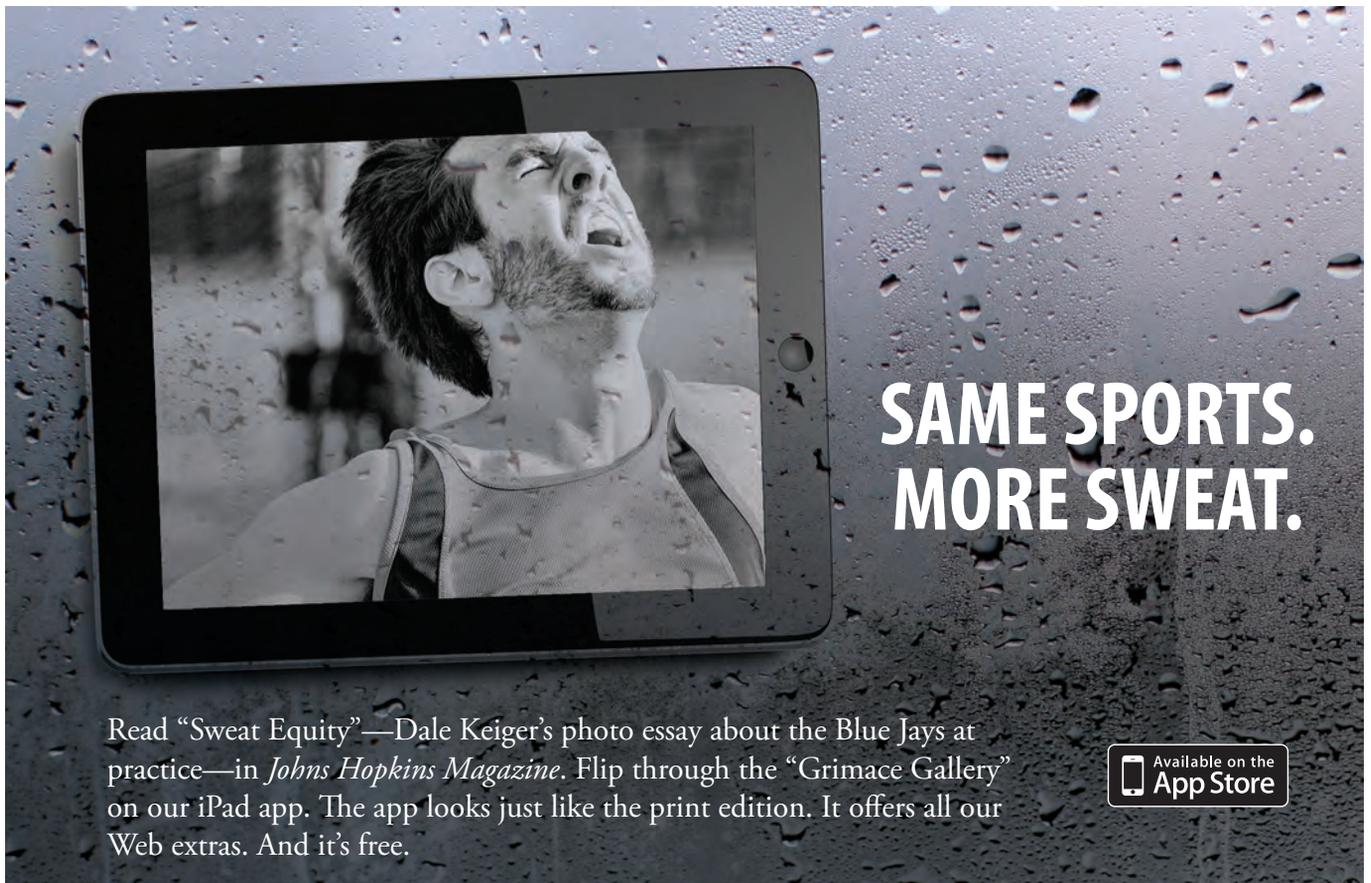
The program connects each student with three mentors. Jennings worked in the lab alongside Julie Takacs, a visiting faculty member in the Department of Biophysics and Biophysical Chemistry who also teaches at a local high school.

They experimented with yeast to learn more about how proteins are put together in order to develop new drugs.

"I think the highlight of the summer was when I went on a trip for a long weekend, and [Jennings] was in the lab, moving along with the experiments while I wasn't here," Takacs says. "She did an experiment that worked perfectly, and her results were one of our key findings for the summer."

Funding for the program came from the Office of the Provost, the School of Medicine Dean's Office, the Office of Multicultural Affairs, the Thomas C. Jenkins Department of Biophysics and Baltimore City YouthWorks. **Jeanette Der Bedrosian**

PHOTOGRAPH BY WILL KIRK/HOMEGOODPHOTO.JHU.EDU



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**New Dean of Nursing**

Patricia M. Davidson



**Leading the List**

No. 1 hospital



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## New Dean of Nursing

Patricia M. Davidson, an award-winning leader in cardiac health for women and indigenous peoples, has been named dean of the School of Nursing. Davidson succeeds Martha N. Hill, who had been dean since 2001.

The Australia native was most recently professor and director of the Center for Cardiovascular and Chronic Care at the University of Technology and a professor of cardiovascular nursing research at St. Vincent’s Hospital, both in Sydney. She previously spent 23 years as a front-line clinician and nurse manager and nearly a decade researching ways to improve cardiac rehabilitation for women. Davidson was a visiting scholar at Johns Hopkins in 2007, 2009, and 2011.

“Johns Hopkins is internationally regarded as a place where problems are solved and innovation fueled,” Davidson said in a university announcement. “Nursing is an integral part of

the solution to many complex health care problems, and we are well-placed to continue to lead innovations in policy, practice, education, and research.”

University President Ron Daniels, who recommended Davidson’s appointment, expressed confidence in her ability to take on the role. “She is a builder and a doer,” he said in the announcement. “She is an award-winning scientist and educator with important ideas for the future of health care and nursing. She will be an innovative dean and a formidable university citizen.”

Davidson, who holds a doctorate from the University of Newcastle, is also a fellow of the American Heart Association and the Australian College of Nursing, as well as counsel general of the International Council on Women’s Health Issues. She joined the university on September 1. **JDB**

## Leading the List

The Johns Hopkins Hospital has regained its spot atop *U.S. News & World Report’s* annual rankings of American hospitals—the 22nd time in the past 23 years that it has held the distinction.

“Given the competitive, rapidly changing health care environment and the realization that *U.S. News* evaluated more than 4,806 hospitals, we hope you share our incredible pride in achieving this top-tier ranking among the best hospitals in the United States,” Paul B. Rothman, dean of the medical faculty and CEO of Johns Hopkins Medicine, and Ronald R. Peterson, president of the Johns Hopkins Hospital and Health System and executive vice president of Johns Hopkins Medicine, said in a joint announcement.

Johns Hopkins also placed first in five medical specialties, including ear, nose, and throat; geriatrics; neurology and neurosurgery; rheumatology; and urology. **JDB**



**Jays Join the Big 10**  
Men's lacrosse



**LGBTQ Center Director**  
Demere Woolway



BOTH: PHOTOGRAPHY BY HOMEWOODPHOTO.JHU.EDU

## Jays Join the Big 10

In 2015, Johns Hopkins men's lacrosse will do something it has never done before: contend for a conference championship. Johns Hopkins President Ron Daniels announced in June that the university will join the storied Big Ten athletic conference as an affiliate member. The decision affects men's lacrosse only; all other Hopkins sports teams will retain their current conference memberships.

At the press conference announcing the decision, Daniels said, "This decision may represent the single greatest change in Johns Hopkins men's lacrosse in more than a century."

Since its first game in 1883 (a 4-0 loss to the Druids Lacrosse Club), men's lacrosse has played as an independent team. In the Big Ten, the Jays will compete with Maryland, Michigan, Ohio State, Penn State, and Rutgers. The conference champion will automatically qualify for the NCAA championship tourney. **DK**

## LGBTQ Ctr Director

When she settled into her newly created position as director of LGBTQ Life in the Office of Homewood Student Affairs, Demere Woolway brought to Johns Hopkins nearly 10 years of experience in making diverse universities more equitable and inclusive. "Everybody benefits when other folks are more comfortable on campus," she says.

Before she arrived at Hopkins in mid-July, Woolway worked with students with diverse sexual orientations and gender identities at Miami University in Oxford, Ohio; Washington State University; and University of Virginia. She's a co-chair of the Consortium of Higher Education LGBT Resource Professionals and a doctoral candidate at Miami University, where she hopes to complete her dissertation in the spring.

At Johns Hopkins, her primary responsibility is to enhance services to lesbian, gay, bisexual, transgender, and queer individuals, she says. She

would also like to connect the LGBTQ community at Homewood with others universitywide and to encourage networking with diverse communities on campus.

"I'm just thrilled by the response from everybody here," says Woolway. Planning is under way for three-hour SafeZone training on all campuses so participants can learn about the LGBTQ community. "They will hear stories of folks in the community and they'll be given a sticker that they can put on their office door or backpack to visibly signal that they are supporters," she says.

She is also planning a series of campus events to celebrate National Coming Out Day in October. "We'll be encouraging conversation and being supportive so LGBTQ folks can live openly and express their identity," she says. **JoAnne C. Broadwater**

# Abbreviated

Edited by Catherine Pierre

Astrophysicist **Charles L. Bennett** has won the 2013 Jansky Prize for his work studying cosmic microwave background radiation. A professor in the **Krieger School of Arts and Sciences'** Department of Physics and Astronomy, Bennett is the first Johns Hopkins faculty member to win the prize, which is sponsored by the National Radio Astronomy Observatory, an affiliate of the National Science Foundation. CMB is the afterglow from an early stage of the universe's development, and its presence supports the Big Bang theory.

Physics and Astronomy research Professor **Holland Ford** has received NASA's highest form of recognition awarded to nongovernmental officials, the Distinguished Public Service Medal, for his contributions to the Hubble Space Telescope.



Naomi Levin

**Naomi Levin**, an assistant professor in the **Krieger School's** Department of Earth and Planetary Sciences, won the Young Scientist Award from the

Geological Society of America for her study of the environments of early humans in Africa. Also known as the Donath Medal, the award is given to a researcher for outstanding achievement in contributions to geological knowledge through original research and comes with a \$10,000 cash prize.

**Adam Seth Litwin**, an assistant professor at the **Carey Business School**, was an inaugural winner of the Emerging Scholar Award in Employee Participation and Ownership. The award is presented by the Academy of Management and sponsored by the Foundation for Enterprise Development. Litwin is an expert in strategic human resources management and employment relations.

**School of Nursing** Assistant Professor **Tener Veenema** is one of 32 recipients of the Florence Nightingale Medal, the highest international distinction a nurse can receive. Veenema is an expert in disaster nursing and public health emergency preparedness.

A team of researchers from the **Applied Physics Laboratory** won Best Medical Robotics Paper honors at the 2013 Institute of Electrical and Electronics Engineers' International Conference on Robotics and Automation. **Mike Kutzer** and **Mehran Armand** of the Research and Exploratory Development Department, along with postdoctoral fellow **Matt Moses** and graduate student **Hans Ma**, won for their work on a novel approach to continuum manipulators with controllable stiffness.

Two **Whiting School of Engineering** student-built devices—a blood clot detection system and a concealable, hands-free breast pump—won top awards in the annual Biomedical

Engineering Innovation, Design, and Entrepreneurship Award competition. Hosted by the National Collegiate Inventors and Innovators Alliance–Biomedical Engineering, the awards recognize designs that have commercial potential and social impact.

Investigators at the **School of Medicine** and **Bloomberg School of Public Health** have received a five-year, \$5.8 million grant to continue research into the causes of frailty in older adults and potential interventions. The grant is awarded by the National Institute on Aging and renews funding of the Johns Hopkins Claude D. Pepper Older Americans Independence Center, a federally designated center of excellence that is one of only 14 such university sites nationwide.

A team of **School of Medicine** neuroscientists has received a five-year, \$9.5 million grant from the National Institute of Mental Health, part of the National Institutes of Health, and has been designated as a Silvio A. Conte Center for Neuroscience Research.

In honor of **Peabody** faculty member **Leon Fleisher's** 85th birthday, Sony Classical released *Leon Fleisher: The Complete Album Collection*, a 23-CD deluxe boxed set spanning 55 years of the pianist's recording career. A central part of the collection is Fleisher's collaboration with George Szell, then conductor of the Cleveland Orchestra, to record every major work written for piano and orchestra. Fleisher has taught at Peabody since 1959.

The **Peabody Institute** has launched the new Pathways to Peabody program. Funded by a renewable \$250,000 grant from the Jack Kent Cooke Foundation, Pathways will enable talented kids ages 12–17 from

low-income families from Baltimore City and the surrounding counties to study at Peabody. This fall, the program will provide full-tuition scholarships for 35 singers, pianists, string players, and other classical and jazz instrumentalists.

The **School of Education** has introduced its new Online Educational Leadership Institute. Leaders of educational organizations, companies, charters, and preK–12 schools can earn graduate credits in four courses: Leadership in Educational Organization; Strategic Systems Change and Action Planning; Power, Politics, and Policy in Education; and Turnaround School Leadership.

**Education** Assistant Professor **Anita Young** has published *School Counseling Leadership: The Essential Practice* (American School Counselor Association, 2013). Co-authored by Marcy Miller Kneale, the book offers a framework for enhancing school counseling leadership capacity.

**Stephen Bosworth**, former U.S. ambassador to the Republic of Korea, has joined the university as the new chairman of the **Paul H. Nitze School of Advanced International Studies'** U.S.-Korea Institute. Bosworth was formerly dean of Tufts University's Fletcher School of Law and Diplomacy. During his 30 years in the Foreign Service, he served as U.S. ambassador to Tunisia, the Philippines, and the Republic of Korea as well as director of policy planning at the State Department.

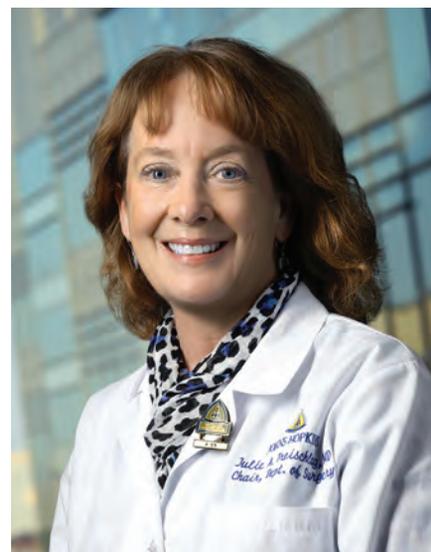
Cardiac surgeon **Levi Watkins Jr.**, associate dean for postdoctoral programs and faculty development at the **School of Medicine** and the first African-American chief resident in cardiac surgery in the history of

Johns Hopkins Hospital, has announced that he will retire, effective December 31.

**Julie A. Freischlag**, director of **Medicine's** Department of Surgery and surgeon-in-chief at Johns Hopkins Hospital, has been elected the first female president of the Society for Vascular Surgery. **Bruce A. Perler**, chief of the Division of Vascular Surgery, was elected vice president of the society.

**William Egginton**, an Andrew W. Mellon Professor in the Humanities and chair of the Department of German and Romance Languages and Literatures, has been named the **Krieger School's** vice dean of graduate education. Egginton will continue to teach in the department, though he will step down as chair.

**Sara Bennett**, an expert in comparative health systems, has been named director of the **School of Public**



Julie A. Freischlag

**Health's** Doctor in Public Health program. Bennett, an associate professor in the Department of International Health, researches health financing, the role of the private sector, and the impact of health initiatives on health systems.

## GOLOMB'S GAMBITS™

**Japanglish**  
Solomon Golomb, A&S '51

The words **hibachi**, **judo**, **kamikaze**, **sushi**, and **tsunami** are among those borrowed from Japanese into English.

A far larger number of English words have been borrowed into Japanese, but the borrowings are often difficult to recognize, for several reasons: Japanese conventions require most consonants to be followed by vowels (usually **u**, but **i** after **ch**, **sh**, or **j**, and **o** after **t** or **d** if no following vowel sound occurs in English); the Japanese language substitutes other consonants for ones it does not have (**r** for **l**, **b** for **v**, **s** for **th**, etc.); and Japanese speakers usually keep only as many syllables as they need to decide which English word they are using. (For example, the word for the Japanese cartoon genre **anime** is a shortened form of the English word **animation**.)

Here are three lists of five “English” words in their Japanese incarnations. The words appear in increasing order of unfamiliarity. See which ones (if any!) you can identify.

List 1	List 2	List 3
hoteru	apāto	baiorin
nyusu	depāto	biru
orenji	miruku	eiakon
tākushi	pazuru	shiatsu
terebi	sābisu	toire

Note: In the Hepburn romanization system used here, which comes closest to English sounds, a bar over a vowel (as in **sābisu**) indicates that the vowel duration is increased. This often pinpoints the accented syllable in English.

Solutions on page 78

## Welcome

Success is about more than awards and paychecks; it's about the people you meet along the way. In this issue, we take a peek into the friendships created at Johns Hopkins. We meet Professor Elliot McVeigh and alum Guy Shechter, who are not only leaders in the field of medical imaging but also snowboarding buddies (p. 70). We talk cribbage with alums Juan Blazquez and John Redpath (p. 72), who remain close 26 years after they met as SAIS students in Bologna. And we chat with Hopkins' next generation, students at the Center for Talented Youth (at right), who travel from near and far to make friends who understand them.

## SMART KIDS RULE

Written by | JENNIFER WALKER

Earlier this year, ninth-grader Wyatt Bair was reading a “really fun and neat” book about multiple dimensions and time travel: *The Universe in a Nutshell*, by theoretical physicist Stephen Hawking. Bair often borrows science and math books from the local community college library to study his favorite subjects: astrophysics, biology, and “awesome math” like pi and the Heisenberg uncertainty principle. Bair was advanced from an early age; at just 4 years old, he told his mom that the Earth’s magnetic poles are squashed because of gravitation. But in the past, his intelligence interfered with both school, which was often too easy, and his relationships with peers, who didn’t always understand him. By fifth grade, “my vocabulary had extended to the point where if I went any further, people had no idea what I was talking about,” he says. “And I was surrounded by kids who didn’t care about anything I was interested in.”

But Bair—who lives in Ronceverte, West Virginia, where there are 1,765 residents, 118 of whom are in his age group—knew this summer would be different. He is one of 40 seventh-, eighth-, and ninth-graders who participated in the Johns Hopkins Center for Talented Youth through the Rural Connections scholarship program. CTY offers an intensive three-week academic program at 24 sites across the United States and Hong Kong. Started last year and funded by the Jack Kent Cooke Foundation through 2014, the Rural Connections program

provides a full \$4,000 scholarship for tuition, room and board, and application fees—plus additional funding for travel, lab fees, and materials—to talented but underserved students from rural communities. Most Rural Connections scholars say that the program is the first time they’ve met friends who are on the same intellectual level. “Three weeks of overnight camp with my peers, people who I’ll become friends with, and teachers who are going to be teaching really awesome stuff is really pleasing to me,” Bair says.

This year, nearly half of last year’s Rural Connections students received other scholarships from CTY and private donors to attend the program a second time. Tenth-grader Matthew Ellison, who lives in Jericho, Vermont (where, he jokes, there is a “chicken on every corner”), returned this year to “branch out” and take paleobiology at the Franklin & Marshall College CTY site in Lancaster, Pennsylvania. But Ellison is a math guy first—in June, he competed in the annual American Regions Mathematics League competition, and his team placed 17th out of 55 Division B teams—so last year he took a rigorous Number Theory course, where he learned about Fermat’s last theorem and unique factorizations. The course had an unexpected effect: When he came home, Ellison could better communicate with his grandfather, a mathematician. At CTY, he also met like-minded friends. “The kind of person who would go to CTY is someone who is



Wyatt Bair, right, takes a break with some friends after a Center for Talented Youth class.

interested in academics and pretty bright,” says Ellison, who also plays tennis and runs cross country. “It’s pretty easy to relate to people who you have that much in common with.”

Former Rural Connections student Natasha Rubright, a 10th-grader who lives near the Pinelands National Reserve in Medford, New Jersey, has already had two reunions with the friends she met at Franklin & Marshall last summer. She built these friendships, in part, through CTY’s “super weird but awesome weird” nightly activities like Pudding Cosby Fun Hour. “We all thought we’d be going to watch Bill Cosby in nice air conditioning and eat pudding,” she says.

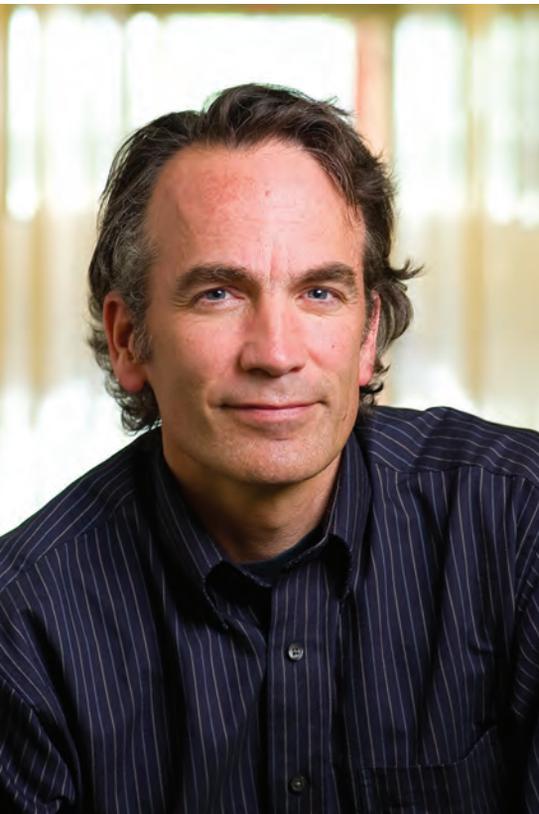
“But when we got there, we made paper sweaters.” She also enjoyed the nightly “Glums and Glows” hall meeting, where students talked about the best and worst parts of their days. About the low points Rubright says, “I never had one.”

The course Logic: Principles of Reasoning had a life-changing impact on Rubright. She remembers one discussion about why the philosopher Socrates, thrown in jail in Athens and facing execution for questioning the gods and teaching youth to do the same, chose not to escape when he had a chance. Rubright and her classmates were fully engaged in the discussion—a welcome departure from her regular

school, where everyone agrees with each other. “A lot of kids at my school don’t want to be judged, and they don’t care about the topic as much to really dive into it,” she says. Inspired by CTY, Rubright, who was initially nervous about starting high school, joined the freshman soccer team and added honors Latin to a schedule that already included honors classes in geometry, algebra, and Spanish. “I realized there was so much more that I could be doing to help myself grow intellectually and socially,” she says. “So I kind of came back and was like, ‘Sure, I’ll dive into two math classes and two language classes and just own it.’”

## HI-RES HEALTH CARE

Interview by | GREG RIENZI



**Elliot McVeigh** is the Massey Professor and director of the Department of Biomedical Engineering at the School of Medicine. He worked with Elias Zerhouni to develop a research program in cardiac MRI at the university and in 1991 founded the Medical Imaging Laboratory in the Department of Biomedical Engineering. Techniques developed out of his MRI research group form the foundation of the modern cardiac MRI. His lab demonstrated numerous novel applications, including the first MRI-guided injections of therapeutic agents directly into the myocardium.

Advances in imaging over the last five years have revolutionized almost every aspect of medicine.

Exploratory surgery has largely been mothballed now that physicians can use various imaging modalities to noninvasively detect a tumor, artery blockage, or organ malfunction. Digital 3-D mammography can detect tumors previously obscured, and now there's talk of physicians carrying around scanners in a briefcase and even their pockets.

Guy Shechter, Engr '96, Med '04 (PhD), says his interest in medical imaging started when he was an undergraduate at Johns Hopkins, where he majored in biomedical engineering and computer science. Shechter first crossed paths with Elliot McVeigh in his junior year, when he took McVeigh's Topics in Medical Imaging and Magnetic Resonance in Medicine courses. McVeigh later recruited Shechter to his lab, where Shechter conducted studies on segmentation (the identification of individual structures in digital images) and motion tracking. His oft-cited papers on the motion of the heart and its coronary vessels are now considered classics. Recently, Shechter and McVeigh got together to share thoughts on the medical imaging profession.

**Guy** When I think about the applications of medical imaging, I bucket them into three areas: screening, diagnosis, and therapy. In terms of therapy advances, there have been interesting applications, like how we can use ultrasound, which historically you think of as a screening modality. Through the years, people have started to ask the question: "What if I tweak

the ultrasound system a bit and instead of just making images, I use it to actually heat tissue?" If I focus these ultrasound waves, I can actually raise the temperature inside the body very precisely. If you take something like that and combine it with magnetic resonance (MR), you can have high-resolution images as well as make measurements of these temperature changes in real time. You can treat noninvasively using the ultrasound, while at the same time monitoring and adapting that treatment with the MR.

**Elliot** There is virtually no exploratory surgery done anymore. Not only that, but there are precise surgical pretreatment plans based on images for all sorts of procedures, like removing tumors. One other advance is in staging. Because of the metabolic rate in tumors, you can see if and where a tumor has metastasized in a PET scan. You know precisely the stage of that person's cancer. You know how to treat them instead of just making a guess and slamming them with chemotherapy. You ask any clinician, [and] the first thing they do is knock on the door at radiology and say, "OK, tell me what's going on here." And if you hang around with radiologists in their office—the really good ones—there is someone knocking on their door like every 20 minutes.

**G** The other thing I'm seeing is the rise of ultrasound. I remember as I was finishing up my PhD, during one of our encounters, you said to me: "Have you seen these ultrasound images that they get nowadays? It's phenomenal. 3-D ultrasound. 4-D

ultrasound. Where did that come from?” Now what you see is miniaturization. You read the literature and they say that the ultrasound scanner will be the stethoscope of the future, where every physician has one in their pocket and they pull it out.

On one hand, that’s great; the technology is there to support that and it will be very valuable to patients. The other side is the concern that if we put this technology in the hands of people who are not yet skilled enough in reading ultrasound images, there is the potential they will see things that are not really there out of an abundance of caution.

**E** One problem with imaging is that it uncovers things that, before you saw them, you wouldn’t treat. And maybe the best thing was to leave it alone. But now that you see it, you are compelled to treat it. Early on, when MR first produced these gorgeous images of the spine, we discovered that 35 percent of people over 40 have a bulge in one of their disks. Do you do surgery on all those people? For a while, they did. But you really don’t have to. The same thing happened for X-ray coronary angiography for the heart.

Imaging devices are also infiltrating the clinic on the specialty level. So an orthopedic surgery clinic will have imaging devices to guide their surgery. Neurosurgery isn’t just an operating room anymore, it’s an OR with all the imaging there. If you look at radiation oncology, it’s traditionally where you beam radiation at tumors based on images of tumors taken off-site. But now all the imaging is integrated into that process.

**G** I think one thing that is interesting is this concept of personalized medicine. There are recommendations for a given diagnosis and staging of cancer, as to how that patient should be treated. That can be combinations of drugs. Could be radiation. Could be invasive procedures. Ultimately, the patient and the physician will make a decision. The question is, at what point can you monitor and verify that the decision is working so that you can make a rationalized decision on how to adapt your therapy? I think imaging-specific responses to therapy are going to be an important piece of the puzzle.

**E** I will go a little bit further and say that imaging technology will be complemented by big data analysis techniques. Companies like Kaiser Permanente will be able to go into their history of 10 million patients that they have treated and ask the question: Who is this person in front of me most like? What 20 or 50 or 100 patients out there were just like this, and what did we do with them, and how did it go?

**G** I think the key is this “information convergence.” One of the transformations that is starting to happen is to be able to intelligently combine all this data—the information on the person’s genetic profile together with a blood test and other pieces of information. Data points that on their own may not be remarkable, but when you have this convergence of information, answers come into view.



**Guy Shechter** is senior director of medical affairs at Philips Healthcare, in the suburbs of Boston. After completing degrees in biomedical engineering at Johns Hopkins, he joined the research arm of Philips and was responsible for defining the clinical and technology strategy in medical navigation before taking on a leadership role to help institutionalize the company’s chief medical office.

## WELCOME TO THE CRIB

Written by | KELLY BROOKS

In the fall of 1986, when most U.S. college students were “Living in America,” John Redpath, SAIS Bol ’87 (Dipl), was living his own version of *Three Amigos* at the Paul H. Nitze School of Advanced International Studies’ Bologna Center. He’d come by way of frosty Minnesota to earn a diploma in international studies, crammed himself into a small student apartment, and begun to enjoy his stay: Oktoberfest in Munich, festivals in Verona, and regular dart games at the nearby pub La Frasca.

“One day I came home, and there was crap all over the apartment. This euro-paraphernalia was strewn about, tennis rackets, bags everywhere. I was sure a middle-aged Spanish woman had moved in,” he says. “It turned out to be Juan.”

“I just want to set the record straight,” cuts in Juan Blazquez, SAIS Bol ’87 (Dipl), SAIS ’88, a Basque Country native who had arrived in Bologna a couple of weeks late so he could wrap up his summer job translating at an international film festival. “First of all, I only brought one racket and one bag—”

“It was your mom’s bag, though,” says Redpath.

The trash talk hasn’t stopped in 26 years.

When Blazquez moved in, he entered “a land of friendliness based on alcohol and card games,” he says. “But it wasn’t until Christmas break that we brought out the cribbage board.” The rest of the school year, the students played cribbage games in

doubles, triples, or in fours, and the roommates and friends who dropped by diligently recorded the stats on a public board for all to see. Only cribbage losers ever ran errands or washed the dishes.

Though the year may have felt like one long cribbage match, “we did actually turn up for classes, and we took our finals,” says Redpath.

Blazquez did well enough to earn an extended scholarship; by the next fall, the two were in Washington, D.C., attending classes at SAIS and living with a group of eight guys they knew from Bologna.

Redpath met his future wife, Katya, while at SAIS, and they married as he began a career in the commodities market. After 25 years on Wall Street, he and three former colleagues launched a commodity trading company, Trail Stone LPE, this year. Blazquez started his career as a marketing manager for an artificial intelligence startup company, and today he and his wife, Chirine, and their children are still settled in D.C., where he works in the South Asia region at the World Bank.

“We talk about all the fun stuff, but over the years, we both had some pretty big personal tragedies and challenges. Those were the times where, I mean, honestly . . .” Redpath trails off. “Juan is one of the closest friends I never see.”

“John has always been there when things weren’t so easy. If I’m having a hard time, I often think to myself, ‘What would John do?’” says Blazquez. “After all, he’s a pretty well-balanced guy . . . who can’t play cribbage.”



Twenty-six years later, the friendly ribbing continues for former roommates Juan Blazquez (left) and John Redpath.

## THEIR KIND OF TOWN

Written by | MARIANNE AMOSS

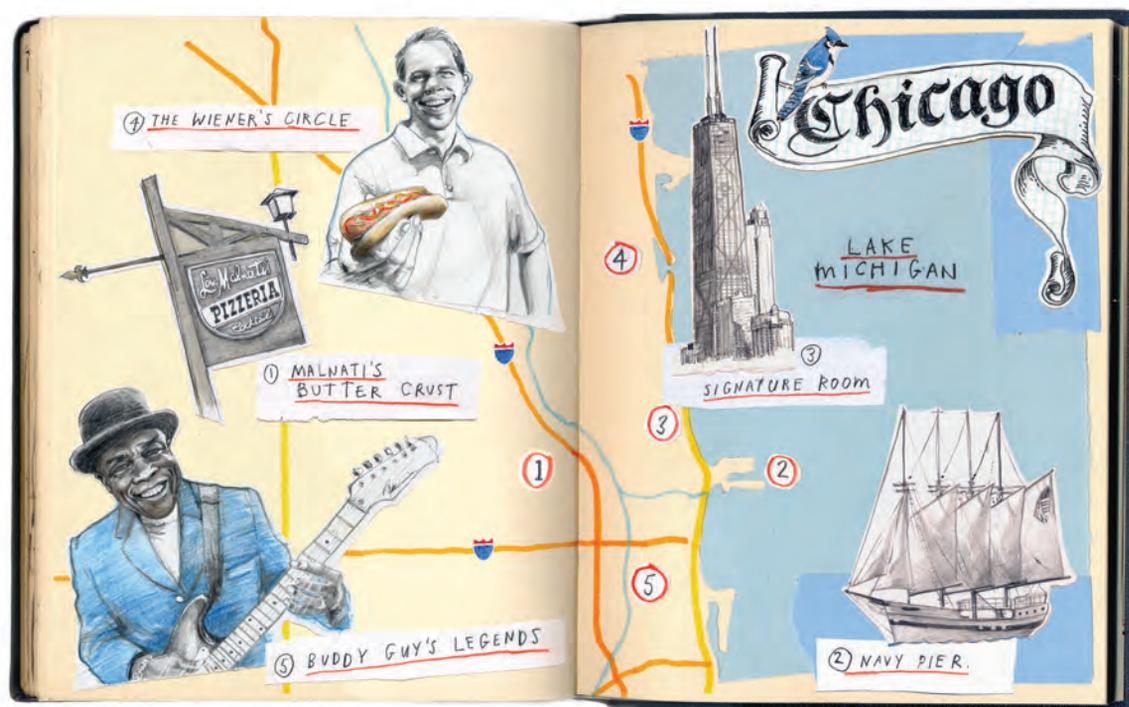


ILLUSTRATION BY DAVID FULLARTON

Priya Sunkara, A&S '08, moved to Chicago five years ago. The New York native says settling there was easier than she thought it would be. "It's still a Midwestern town even though it's a city," she says. "I call it user-friendly New York." The third-largest metropolitan area in the United States, Chicagoland—as the city and its surrounding suburbs are called—is also home to more than 1,900 Johns Hopkins alumni. Sunkara has gotten to know some of them as co-chair of the Young Alumni Committee, which organizes social gatherings at local hotspots. She, along with Chicago alumni chapter president Athena Abbott, A&S '90, helped put together this insider's tour.

The tour starts with the obvious: deep-dish pizza. One mainstay is **1. Lou Malnati's**, known for its butter

crust; there are 30-plus locations in the Chicagoland area, including one on the Gold Coast, a few blocks from **2. Navy Pier**. The 3,300-foot-long pier is a favorite of tourists, who are drawn by such attractions as the 15-story Ferris wheel, the tall ship *Windy*, and the **Smith Museum of Stained Glass Windows**, which features 150 religious and secular windows, some attributed to such famed craftsmen as Louis Comfort Tiffany and John LaFarge. Abbott calls the Smith Museum a "hidden gem." To get the story on the city's famous skyline, travel along the Chicago River on a **Chicago Architecture Foundation River Cruise**. Or get a bird's-eye view from the nearby **3. Signature Room** on the 95th floor of the John Hancock Center, which offers a stunning panorama of the city, as

well as eats and drinks. "It's amazing," says Sunkara. "Tourist or not, I'd say it's definitely worth going there for a drink"—and in the summertime you might catch the twice-weekly fireworks display over Lake Michigan. Comedy fans will want to catch a performance at **The Second City** theater near Lincoln Park, where stars like Tina Fey, Bill Murray, and Mike Meyers trained. Afterward, head north about a mile to **4. The Wiener's Circle** for a "char dog," or a charbroiled hot dog, as well as a dose of sassy banter from the employees. Cap the night off with a visit to blues club **5. Buddy Guy's Legends**. Founded in 1989 by electric blues master Buddy Guy, the place has live music every night and has seen performances by such greats as Eric Clapton, Stevie Ray Vaughn, and Dr. John.

## NOMINATIONS WELCOME

Written by | LISA BELMAN



This year, 38 alumni, faculty, and friends of the university received Johns Hopkins University Alumni Association awards. Among them: **Irvin Nathan, A&S '64**, attorney general of the District of Columbia; **Audrey McCallum, Peab '60, '67**, a pianist, music educator, and the first African-American to be admitted to Peabody; **Karen Horn, A&S '72 (PhD)**, the first female president of a Federal Reserve Bank and a nationally recognized leader in economics; **Solomon H. Snyder, HS '68**, a pioneer in the field of molecular neuroscience and founder of the School of Medicine's Department of Neuroscience; and **Neilesh S. Patel, Engr '03**, a social entrepreneur, leader in global public health, and advocate for the welfare of children. They may work in vastly different areas, but what the award recipients have in common is a drive to advance their fields and, in many cases, the world.

The Distinguished Alumnus Award, which was the first award category created by the Alumni Association nearly 50 years ago, is given to alumni who have exemplified the Johns Hopkins tradition of excellence and whose personal accomplishments, professional achievement, or humanitarian service have brought credit to the university. The award, says Howard Adler, A&S '72, chair of the Alumni Council Awards and Nominations Committee and a partner at Gibson, Dunn & Crutcher LLP, is for people who have really "hit it out of the

ballpark with their career, whether it be medicine, law, or some field in which they have achieved outstanding professional success." Writer **Russell Baker, A&S '47**; business magnate and New York Mayor **Michael Bloomberg, Engr '64**; and journalist **Wolf Blitzer, SAIS '72**, are just a few of the past recipients. "The most challenging part of the process," Adler says, "is picking the very best from this group of elite contributors."

The other four Alumni Association awards are the Heritage Award, given to alumni and others who have contributed outstanding service over an extended period of time to the progress of the university or to the activities of the Alumni Association; the Woodrow Wilson Award, for alumni who are distinguished by their current or recent public service as elected or appointed officials; the Knowledge for the World Award, for alumni who have demonstrated professional achievement or humanitarian service in the international arena; and the Outstanding Recent Graduate Award, which goes to alumni who graduated within the last 10 years and have demonstrated outstanding achievement or service in their professional or volunteer lives.

If you know of someone who is deserving of a Johns Hopkins University Alumni Association award for 2014, submit your nomination by December 1. Nomination forms along with biographies of the 2013 award recipients can be found at [alumni.jhu.edu/awards](http://alumni.jhu.edu/awards).

## 1938

**Charles C. Counselman Jr., Engr '38**, who served in the U.S. Army Corps of Engineers, worked at the Baltimore Gas and Electric Co. before retiring from the insurance industry in 1985. After a move to Naples, Florida, he returned to Baltimore, where he enjoys time with his four children, 12 grandchildren, and 10 great-grandchildren.

## 1943

**Alan Groh, Engr '43**, worked for Amoco Corp. for 37 years developing catalytic processes and closed-loop computer control of oil refineries. He received his MBA from the University of Chicago in 1964 and led activities in marketing and public affairs. He and his wife, Doris Ruth, live in San Diego.

**John G. Strauch, Engr '43**, served with the U.S. Navy during World War II and later joined General Electric as a service engineer. He became a manager at the company and was responsible for design and procurement of electrical reactor control equipment for atomic U.S. naval surface vessels and submarines. Strauch remains active in retirement by investing, playing trumpet, softball (shortstop!), and dancing.

## 1948

**Rashi Fein, A&S '48, '56 (PhD)**, is a professor of the economics of medicine, emeritus, at Harvard Medical School. He was previously a member of the Economics faculty at the University of North Carolina at Chapel Hill. Fein served on the staff of President Truman's Commission on the Health Needs of the Nation and was a member of President Kennedy's Council of Economic

Advisers and a senior fellow at the Brookings Institution's Economic Studies program.

## 1953

**William Maginnis, Engr '53**, is retired from his position as director at Beatrice Companies Inc. He and his wife, Mimi, are active in charity work, focusing

particularly on an orphanage in Baja, Mexico. They live in Fullerton, California.

## 1957

**Vivian Adelberg Rudow, Peab '57 (Cert), '60, '79 (MM)**, had her latest CD, *Sound Portraits: Orchestra, Chamber and Electro-Acoustic Music*, featuring

performances by the London Philharmonic Orchestra, released by MSR Classics in January.

## 1963

**Tom Ahern, A&S '63**, writes: "I learned more from fencing coach Dick Oles than any other teacher in my life. He taught discipline and values, the importance of perseverance, the rewards of hard work, the significance of principles and ethics. The lessons learned on the fencing strip were invaluable to me as an entrepreneur in the computer and book fields."

**Arnold Spitz, A&S '63**, is a retired attorney living in Sag Harbor, New York. He specialized in the area of intellectual property law, with Merck & Co., the Seagram Co. Ltd., and Pennie & Edmonds.

## 1968

**Richard Kaplan, A&S '68**, joined the U.S. Foreign Service after graduation and was assigned to embassies and consulates in Europe, South Asia, South America, the Middle East, and Canada. He is now retired in Boston and enjoys writing, reading, working out, and traveling with his wife, Elisabeth.

**Jim Werner, A&S '68**, served in the Army before receiving his MBA from Harvard and working with several pharmaceutical and diagnostic companies. He and his wife live in Mt Airy, Maryland, where he works part time at TNT Services Group and plays golf full time.

## 1973

**Jeffrey Aresty, A&S '73**, is president of Aresty International Law Offices in Houston.

**John Duker, Engr '73**, works as the director of Federal Programs

### Science With Style

*Shawna Stepp-Jones, Engr '10 (MS), wants to change the way girls think about science. Her nonprofit, Divaneering—"diva" plus "engineering"—encourages girls to pursue education and careers in the STEM fields (science, technology, engineering, and math) through fashion- and beauty-themed activities. As Miss Maryland Plus America 2013 and a patent examiner for the United States Patent and Trademark Office, Stepp-Jones is perfect for the job. "When girls traditionally think of women in science, they think of 'geeky' and 'quirky,'" she says. "So I wanted to put a spin on that image and say, 'No. We are fabulous. We are divas. We are Divaneers.'" Since winning the crown, Stepp-Jones has started writing a series of books about the Divaneers, girls who use STEM skills to solve real-world problems, and has conducted workshops with area students on such topics as making lipstick out of melted crayons and creating earrings with LED lights. After her workshops, some students change their minds about their future careers: One young girl switched her goal from professional ice skater to Divaneer. MARIANNE AMOSS*



at Digital Reasoning Systems in Arlington, Virginia. John's favorite memories from Johns Hopkins include putting a Mickey Mouse watch face on the Gilman clock tower and electrifying the Adams dorm bathroom.

**Richard Kuehn, A&S '73**, works at Mavins Group–Allstate, an insurance and financial firm in Marietta, Georgia. He fondly remembers participating in the world's largest food fight at the Naval Academy dining hall while visiting with the freshman lacrosse team.

**Robert LaRossa, A&S '73**, lives in Pennsylvania with his wife. His daughter **Karen LaRossa, Ed '09 (MS)**, is also a Johns Hopkins graduate.

**Kerry Levin, A&S '73, Med '77**, is chairman of the Department of Neurology within the Cleveland Clinic's Neurological Institute.

**David Levine, A&S '73, '75 (MA)**, is a writer specializing in health and medicine. He is co-chair of Science Writers in New York, a group of editors and writers who cover science and medicine in the print and electronic news media. Levine was previously director of media relations for the American Cancer Society and worked for Pfizer for 10 years. He fondly remembers his freshman year in Baker House in 1969, where he made many friends he is still close to today.

**Griff Lewis, Engr '73**, lives in Chicago with his wife, Barbara. He writes: "After 30 years with Baxter Healthcare, I retired February 1, 2013. Barb and I plan on leaving the cold winters of Chicago and moving to Carlsbad, California, in 2015."

**George "Bing" Linhardt, A&S '73**, reports that after graduating from Johns Hopkins, he went on to earn his Doctor of Medicine

degree at the University of Maryland School of Medicine. He is now a general surgeon and lives in Jackson, Wyoming, with his wife, Sally.

**Michael Livanos, A&S '73, SAIS '74**, is president of SCIO Shipping Inc.

**Osgood "Steve" Lovekin Jr., A&S '73**, is an attorney in Seattle specializing in family law. His son, **Michael Bowman, A&S '89**, is also a Johns Hopkins graduate.

**Donald Masters, A&S '73**, is CEO of Artificial Cell Technologies Inc. He completed his doctorate in biochemistry and immunology in 1979 at Cornell University and was a postdoctoral fellow at Harvard Medical School from 1979 to 1982.

**Martin Reber, A&S '73**, reports that he received an MBA in entrepreneurial management in 1976 from the University of Pennsylvania and is currently managing director at Higher Education Technology and Services. He now lives in Pennsylvania with his wife, Sandra.

**Warren Rosman, A&S '73**, is a partner at Weston Hurd LLP, where he focuses on defending cities and school boards in employment law cases. An active participant in the local bar association, Rosman volunteers to teach constitutional law at an inner-city high school. He and his wife, Debra, live across the street from Lake Erie.

**Alan Schiz, A&S '73**, is a senior technical architect for AT&T. After graduating from Johns Hopkins, he earned a doctorate in physics from Yale University in 1979. He has two children and lives in New Jersey with his wife, Pam.

**James M. Shannon, A&S '73**, is president and CEO of the National Fire Protection Association. He is married to Dr. Silva Castro Shannon.

**Jack Sidorov, A&S '73**, who earned a juris doctorate from Harvard Law School in 1976, is an attorney for the Antitrust Division of the U.S. Department of Justice.

**Stephen Strelec, A&S '73**, is an anesthesiologist practicing in Pittsburgh. His daughter, **Lauren Strelec, A&S '07**, is also a Johns Hopkins graduate.

**Henry C. Ward, A&S '73**, earned a Master of Science degree in air resources/industrial hygiene at the University of Pittsburgh after graduating from Johns Hopkins.

**Art Weiss, A&S '73**, is a professor of rheumatology, medicine, microbiology, and immunology at the University of California, San Francisco, and an investigator at Howard Hughes Medical Institute.

**Donald Wenzel, A&S '73, Bus '76 (MAS)**, is the president of Wenzel & Company, an advertising, marketing, and public relations firm.

**Jack Whitney, A&S '73**, is an emergency physician and medical director at the North Shore Medical Group in Highland Park, Illinois.

**Arthur Young, A&S '73**, is an economist at the U.S. Department of Labor.

**Judi Zyroff, A&S '73**, is director of market research pricing and feasibility at MyPoints.com, where members earn points every time they shop from the company's network of retailers. Zyroff is married with two sons.

## 1978

**Sue Hwang, A&S '78**, has worked in the area of clinical trials, starting with Dow BioScience (now GSK) and lately at Amgen. Now retired, Hwang is still active in community theater and has fond memories of working on the Theatre Hopkins productions of *Guys and Dolls* and *Charlie Brown*.

## 1979

**Stuart W. Davidson, A&S '79**, has been appointed chair of the Pennsylvania Board of Law Examiners. He was appointed to the board in 2008 and has served as vice chair for the last three years.

## 1983

**Haswell Franklin Jr., A&S '83**, co-owns, along with his three brothers, a national financial services firm that assists businesses and individuals with solving complex employee benefits, insurance, and financial issues.

## 1984

**Margaret-Ann F. Howie, A&S '84**, general counsel for Baltimore County Public Schools, was named Maryland Pro Bono Attorney of the Year (2013) by the Tahiri Justice Center, a nonprofit organization that offers legal services, advocacy, and public education programs to protect immigrant women and girls who are fleeing violence.

## 1988

**Steven Angerthal, A&S '88**, attended the University of Wisconsin–Madison, where he earned his doctorate in political science after graduating from Johns Hopkins. Angerthal reports that he is married with three children, lives in Washington, and works for the U.S. Army as an adviser for the Department of Studies.

**Joshua Ardise, A&S '88**, attended SUNY Stony Brook, where he received his medical degree in 2002 and master's degree in public health in 2010. He is currently the medical director for the Jewish Guild for the Blind.



### A Nestful of Blue Jays

When Chris Hampton, A&S '83, and his wife, Rene, started a family, "we didn't just have children," he says. "We had a litter." Born within a five-year window, all four kids are now Johns Hopkins students. The family's "serious first-born" and aspiring neuroscientist Chris Jr., 22, is in the home stretch of a combined BA/MS program. Patrick, 21, is the jokester of the family ("John Belushi reincarnated," says his dad) and has traveled to Ghana, Tanzania, and Honduras pursuing his public health degree. Patrick and his younger brother, Gerard, 20, are Phi Kappa Psi fraternity brothers and rugby players. Gerard, a double major in public health and classics, is interning in Rome this semester. And Bridget, 18, is a freshman, field hockey player, and future psychologist. When Hampton's brood of Blue Jays visits home, their travels and studies become the heart of dinner-table conversation and lively debate. "We always have a grand time together," says Dad. **KELLY BROOKS**

**Herman Ayayo, A&S '88**, is an editor at Tax Analysts, a nonprofit publisher that provides tax information worldwide.

**Mark Basch, A&S '88**, is a director at Interactive Data, a global provider of financial market data, analytics, and financial solutions. He has two children.

**Christina Beilenson, A&S '88**, attended University of Maryland School of Social Work, where she earned an MSW in 1996. She now works for Baltimore City Public Schools.

**Luis Bendezu, A&S '88**, earned a medical degree from the University of Connecticut in 1992. He is a physician with the Mecklenburg Medical Group in North Carolina and is married with three children.

**Mikyle Byrd-Vaughn, A&S '88**, is a clinical assistant professor and coordinator of academic affairs at the University of Bridgeport. After Johns Hopkins, she attended the University of Bridgeport College of Naturopathic Medicine and Nutrition Institute, where she

earned degrees in naturopathy and human nutrition. She is now married with two children.

**Steve Cohen, A&S '88**, is currently the chief operating officer and a principal at West Road Capital Management, a long/short equity hedge fund shop.

**Tom DiBari, A&S '88**, recently joined Geneva Advisors, a Chicago-based growth equity manager, after a 13-year stint with a boutique fixed-income firm.

**Kathryn "Kacie" Harkins, A&S '88**, received her Master of Public Health degree from Boston University in 1998. She now works for Aetna and is married with three children.

**Julie Heaney, Engr '88**, is a partner and member of the Intellectual Property Litigation Group at Morris, Nichols, Arsh & Tunnell LLP, a Delaware law firm.

**Jordan Karp, A&S '88**, is a senior vice president and general counsel at PharmAthene Inc., a biodefense company.

**William Key, A&S '88**, works for Allstate Insurance and lives in Nashville.

**Adam Kristol, A&S '88**, is a principal at ALIGN Real Estate Consulting in the Miami/Fort Lauderdale area.

**Amy Lambrecht, A&S '88**, is director of development for Advancement Project, a next-generation, multiracial civil rights organization.

**William LaPlante, Engr '88 (MS)**, was appointed principal deputy, assistant secretary of the Air Force (Acquisition) in April. He most recently served as portfolio director for the Missile Defense Agency at the Mitre Corp., a not-for-profit organization that provides systems engineering, research and development, and information technology support to the government.

**David Lubetkin, A&S '88**, attended the Albert Einstein College of Medicine after graduating from Johns Hopkins and is a fellow of the American College of Obstetricians and Gynecologists practicing in Boca Raton, Florida.

**Elizabeth MacGillivray, A&S '88**, received her JD from Boston University after graduating from Johns Hopkins. She is now a principal at Mercer, a global human resources consulting firm.

**Michael Maline, A&S '88**, is a partner at Goodwin Procter in the Business Law Department and a member of the Capital Markets, Life Sciences, and Technology Companies practices.

**Dwain Morris-Irvin, A&S '88**, is an assistant professor and research scientist for the Maxine Dunitz Neurosurgical Institute at Cedars-Sinai Medical Center in Los Angeles.

**Joyce Nyberg, A&S '88**, attended Lewis and Clark College, where she earned a Master of Arts in Teaching degree in 1989, with a concentration in teaching language arts. She is now chair of the English Language Arts Department for the public school district in Miles City, Montana.

**Marlene Platkin, A&S '88**, earned an MBA in real estate finance in 1992 at the Columbia Business School. She is now married with two children.

**Evan Reiter, Engr '88**, is vice chair of the Department of Otolaryngology and an associate professor at Virginia Commonwealth University.

**Anne Robinson, A&S '88, '90 (MSE)**, is a professor and department chair of Chemical and Biomolecular Engineering at Tulane University.

**David D. Shin, A&S '88**, a general and vascular surgeon, is a partner with Texas Surgical Associates.

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## GOLOMB'S ANSWERS

## Japanglish

*Solutions (Puzzle on page 67)*

**List 1:** hotel, news, orange, taxi, television

**List 2:** apartment building, department store, milk, puzzle, service

**List 3:** violin, building, air conditioning, shirt, toilet

**Notes:** 1 Very common in orenji jiusu, "orange juice." 2 Not "beer," which is biiru, where ii indicates that the i has a long duration. Biiru entered Japanese from Dutch bier, with an audible r sound at the end, not from the British, which the Japanese would have rendered as bia. (To have rendered the entire word building phonetically would have required six kana "syllables" in Japanese.) 3 Keeping only what Japanese speakers hear as the beginning syllables of air conditioning! 4 The Japanese write Y-shiatsu with an English letter y preceding the phonetically written shiatsu to mean "white shirt." 5 Another extreme example of shortening occurs in the word karaoke, where kara is Japanese for "empty" (as in karate, literally "empty hand"); but oke is all that is kept of the English word orchestra. (Thus, karaoke means "empty orchestra.")

**Mindy Steinholz, A&S '88**, is a pediatrician in the Bronx.

**Stephanie Weissman, A&S '88**, is a supervising deputy district attorney for the Riverside County District Attorney's Office. She reports that her 15-year-old daughter was selected to play on the England National V16 Basketball team and competed in the European Championship last summer.

**Melissa Wu, A&S '88, Bus '00 (Cert), '03 (MBA)**, is medical director for Immediate Care of Southern New Hampshire, the walk-in clinics/urgent care centers affiliated with Southern New Hampshire Medical Center in Nashua. She and her husband, Tyler Brannen, have traveled to Scotland and Australia to compete in marathon races.

## 1989

**Otto W. Immel, A&S '89**, a partner in the law firm Quarles & Brady LLP, was named one of two 2013 Economic Partnership Volunteers of the Year by the Greater Naples (Florida) Chamber of Commerce in April.

**Saurin Shah, A&S '89**, reports that he wrote a book chapter on the electrification of road transportation in *Plug-In Electric Vehicles: What Role for Washington?* (Brookings Institution Press, 2009) and was also named co-portfolio manager of Neuberger Berman Global Equity Fund.

## 1990

**Alexander Swirnoff, A&S '90**, is a patent attorney with Pfizer in the Greater Boston area.

## 1994

**Ritu Sharma, SPH '94**, was honored in June as a Woman of Distinction at the National Conference for College Women Student Leaders, for her work as co-founder and president of Women Thrive Worldwide, an advocacy group addressing gender inequality for women living in poverty.

## 1995

**Carla M. Koretsky, A&S '95 (MA), '98 (PhD)**, became dean of Western Michigan University's Lee Honors College on July 1. She has been a faculty member at WMU since 2000 in the Environmental Studies Program and the Department of Geosciences. Her work focuses on aqueous geochemistry and biogeochemistry, seeking to integrate field, laboratory, and modeling studies of mineral-water-biological interactions near the Earth's surface.

## 1998

**Matthew Ortman, A&S '98**, is now an assistant professor of medicine at Cooper University Hospital in New Jersey.

**Jaime Pickett, A&S '98**, is a doctor of veterinary medicine practicing at Banfield Pet Hospital in Richmond, Virginia.

**Sarah Scott, Engr '98**, is a teacher in the St. Landry Parish district of Opelousas, Louisiana.

**Radhika Shenai, A&S '98**, lives in Chicago and reports that she is a managing director and head of the Consumer Services and Healthcare Group for Lloyds Bank North America. She recently earned her MBA from the NYU Stern School of Business.

**Allan Simpao, A&S '98**, is a pediatric anesthesiologist at the Children's Hospital of Philadelphia.

## 2000

**Dayrel S. Sewell, A&S '00**, is founder and principal at the law firm of Dayrel Sewell PLLC, a leading national law firm based in New York and focusing on litigation, intellectual property, and real estate.

## 2005

**Russell Kirk, Peab '05**, debuted his second album, *To Journal Square*, in March 2012. He has been performing regularly in New York and Baltimore as well as volunteering with the Baltimore Symphony Orchestra's ORCHKIDS program.

## 2008

**Stephanie Tow, A&S '08**, spent a year abroad as a Fulbright Fellow based in Hong Kong to teach English. Tow graduated from New Jersey Medical School in May and started her residency training in physical medicine and rehabilitation with career aspirations focused on pediatric disability, advocacy, health policy, academia, and research at the international level.

## 2009

**Catherine Derbes, A&S '09**, who has been with Teach for America in New Orleans for four years, will remain for an additional year to teach mathematics to fifth-graders.

**Francesca Ferrono, A&S '09**, is studying for a doctorate in Portuguese and teaching at the University of Wisconsin-Madison.

## IN MEMORIAM

**Walter Scott Brown, Engr '28**,  
January 28, Sykesville, Maryland.

**John M. Kopper, Engr '33, '44  
(PhD)**, January 16, Baltimore.

**Robert Lowenstein, A&S '34  
(PhD)**, January 7, West Orange,  
New Jersey.

**Theodore "Ted" Stern, A&S '34**,  
January 18, Charleston, South  
Carolina.

**Josephine Rodgers Fielder, Nurs  
'37 (Dipl)**, February 10, Whittier,  
California.

**Francis J. Taylor Jr., Engr '38**,  
January 16, St. Augustine, Florida.

**Mildred B. Otenasek, A&S '39  
(PhD)**, November 19, 2012,  
Baltimore.

**Mary Ellen Calhoun Gilson, Nurs  
'40 (Dipl)**, December 20, 2012,  
Dallas, Georgia.

**Arthur E. Laidlaw, HS '40**,  
November 19, 2012, Cooperstown,  
New York.

**H. Thomas Robinson, A&S '41,  
Med '44, HS '48**, February 22,  
North Branford, Connecticut.

**Marjorie M. Clements, Nurs '42  
(Cert)**, February 7, Seaford,  
Delaware.

**Ernest H. Hinrichs Jr., A&S '43,  
HS '49, Bus '54**, February 23,  
Lewisburg, Pennsylvania.

**Gibson P. Buchanan, Med '44, HS  
'44**, February 2, Verona, Pennsyl-  
vania.

**Kathleen W. Bialostosky, Nurs  
'45 (Dipl)**, January 14, West Linn,  
Oregon.

**Raphael B. Reider, A&S '48**,  
December 30, 2012, San Francisco,  
California.

**Mary A. Bentz, Nurs '49 (Cert)**,  
November 10, 2009, Albuquerque,  
New Mexico.

**John C. Neu, Engr '49**, February  
4, Annapolis, Maryland.

**Henry S. Baker Jr., A&S '50**,  
February 2, Monkton, Maryland.

**William C. Eppers Jr., Engr '50,  
'62 (PhD)**, December 14, 2012,  
Bellbrook, Ohio.

**Humes H. Hart, A&S '50, '56  
(MA)**, January 16, Waynesville,  
North Carolina.

**James F. O'Neill, Engr '50**,  
November 12, 2012, Bel Air,  
Maryland.

**Solomon J. Cohen, Med '51**,  
January 8, Kennebunkport, Maine.

**Guy N. Cromwell Jr., A&S '51**,  
January 15, Midlothian, North  
Carolina.

**Lynn Taylor Hebden, Peab '51  
(Cert), '54 (AD)**, February 3,  
Baltimore.

**Walter S. Henly, Med '51, HS '52**,  
February 10, Houston.

**Christopher Van Hollen, A&S '51  
(PhD)**, January 30, Washington,  
D.C.

**Charles H. Glatfelter, A&S '52  
(PhD)**, February 6, Gettysburg,  
Pennsylvania.

**Allan R. McClary, Med '52 (PGF)**,  
January 17, Glen Arm, Maryland.

**Winslow S. Caughey, A&S '53  
(PhD), Med '54, '56 (PGF)**,  
February 25, Hamilton, Montana.

**Martin C. Chaitt, Engr '53 (MS)**,  
November 10, 2012, Palm Beach  
Gardens, Florida.

**Vernon B. Morris Jr., Engr '53  
(MS)**, January 7, Baltimore.

**Joseph F. Skrivan, Engr '53, '56  
(MSE), '58 (PhD)**, January 26,  
Trumbull, Connecticut.

**Philip J. Ferris, A&S '54, Med '58**,  
November 8, 2012, Lutherville,  
Maryland.

**Norio B. Endo, A&S '56**, January  
11, Annapolis, Maryland.

**William D. Waxter III, Engr '56**,  
February 11, Cockeysville,  
Maryland.

**Salvatore J. Cantolino, A&S '57  
(MA), Med '61, HS '64, '69**, March  
9, Bradenton, Florida.

**Eugene DiCero, A&S '57, '57 (MA)**,  
January 5, Fremont, California.

**Bruce S. Grimes, A&S '57**,  
November 14, 2012, West  
Melbourne, Florida.

**Joseph A. Di Venuto, A&S '59  
(MA)**, December 19, 2012,  
Springfield, Massachusetts.

**Anthony J. Lazarewicz, Engr '59  
(Cert)**, January 3, Mount Airy,  
Maryland.

**George R. Fountain, A&S '60**,  
February 10, Glenville, New York.

**Richard Brown Hughes, A&S '61  
(MA)**, November 20, 2012, Atlanta.

**Henry D. "Hank" Nadig Jr., A&S  
'61 (MA)**, February 11, Lee,  
Massachusetts.

**Irwin W. Pollack, Med '61 (PGF),  
HS '61**, January 6, Tucson,  
Arizona.

**Zsolt H. B. Koppanyi, Med '62  
(PGF), SPH '71**, January 29,  
Midlothian, Virginia.

**Robert H. Siegel, A&S '62 (MA)**,  
December 20, 2012, South  
Berwick, Maine.

**Wilma B. Bias, A&S '63 (PhD),  
Med '64 (PGF)**, January 29,  
Baltimore.

**Richard M. Tisinger Jr., A&S '63  
(PhD)**, January 28, Los Alamos,  
New Mexico.

**Ramez S. Azoury, HS '64, Med  
'70 (PGF)**, January 12, Norfolk,  
Virginia.

**Peter W. Kersker, A&S '64**,  
January 16, St. Petersburg, Florida.

**Barbara Topper, Peab '64, '68  
(MM)**, January 26, Medford,  
Oregon.

**Darryl W. Copeland, Bus '65  
(MS)**, January 5, Pine Valley, New  
Jersey.

**Ramesh. D. Kulkarni, Med '66  
(PGF)**, August 22, 2012, Maharash-  
tra, India.

**Don M. McQuoid, Ed '69 (MEd)**,  
February 10, Severna Park,  
Maryland.

**William M. Runkle, SPH '70**,  
January 12, Austin, Texas.

**Louis W. Bush, Engr '71**, February  
1, Baltimore.

**Robert Oscar "Bob" Mumper,  
Bus '72**, March 9, Lima, Ohio.

**Billy G. Dinsmore, Ed '74 (MEd)**,  
January 26, Aberdeen, Maryland.

**Carl J. Gerbrandt, Peab '74  
(DMA)**, January 23, Platteville,  
Colorado.

**Walter A. Scott, Med '75 (PGF)**,  
January 28, Miami.

**Peter J. Tutschka, Med '75, '76  
(PGF), HS '75**, January 11,  
Farmington, Connecticut.

**Peggy Brandon Brown, Ed '76  
(MA)**, January 25, Baltimore.

**Gayle Layfield Latshaw, A&S '78  
(MLA)**, February 1, Baltimore.

**Kuan-Teh Jeang, A&S '79, Med  
'82, '84 (PhD)**, January 27,  
Rockville, Maryland.

**Clifford H. Turen, A&S '79**,  
January 13, Clarksville, Maryland.

**Michael R. Spence, SPH '80**,  
December 25, 2012, Lakeside,  
Montana.

**Frederick N. Scatena, Engr '87  
(PhD)**, January 2, Philadelphia.

**Lavinia Pitzer, Ed '93 (MS)**,  
November 15, Washington.

**Grace M. Chu, Bus '95 (MS)**, May  
6, 2012, Flanders, New Jersey.

**Daniel J. DeCicco, Engr '99 (MS)**,  
January 15, Pasadena, Maryland.

**Sophia Schmidt, SPH '11**, January  
25, Frederick, Maryland.

## TRAUMA'S TOLL

Written by |

KATI WORONKA, A&S '99, ED '00 (MAT)

A friend took her 2-year-old out for a walk one bright spring morning. As they wandered along, she breathed deeply the scent of her neighbor's flowers. At the end of the street, her little girl pointed at the sky, smiling. "Look, Mommy! Airplane!"

My friend looked and, sure enough, there was a big dark plane, flying low. She turned the stroller around and sprinted home. As they entered the house, the rumble grew louder and, within moments, the sound of bombs landing about a mile away filled the erstwhile quiet street. She turned on cartoons to drown out the noise.

A few days later, during bath time, my friend's daughter picked up a toy and made it float over the water like an airplane. Then she dropped it quickly and shouted, "BDUSH! BDUSH!"

She's playing war now instead of playing house.

I hear so many similar stories, both from old friends I met while living in Syria and from new ones I've made while volunteering with projects to aid Syrians. "Back [home], the kids did art activities at school," one Syrian woman now living as a refugee in Jordan said to me. "They drew trees, birds, and pictures of other kids playing. Now they draw guns, snipers, and fighter jets." Her children have already missed two years of school. They are hopeful to go home, but their city lies in ruins.

The trauma of this war will last much longer than the fighting, but the Syrians I know are strong. They are also tenderhearted. I recently met one young man who, when his city was occupied, joined with his neighbors to



ILLUSTRATION BY DANIEL ZENDER

organize food rations and negotiate with the new militias. But as the city came under siege, he had to flee. Upon arriving in a neighboring country, he set about trying to find some way that an international NGO might deliver aid to his city. He has since returned home, living in a battle zone and doing what he can to help the people he loves.

He is not alone. Youth associations are popping up throughout the country. Teenagers deliver food when they can find it, gather volunteers to clean rubble off the streets, and

arrange social activities for younger children who can't attend school. One young man told me they are researching online counseling training so they can help traumatized children begin to recover. These young people are well-educated and well-connected. They could put their own safety first and leave the country. But they don't. If they are the ones who will build the new Syria, then maybe trauma can do some good after all.

**Kati Woronka's** recent novel, *Dreams in the Medina*, is based on her experience of living and working in Syria for almost four years.

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