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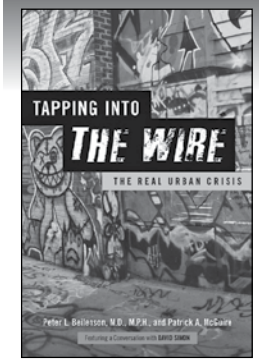

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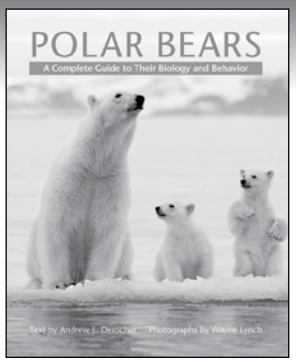

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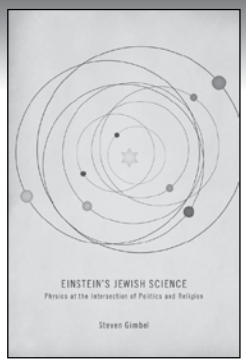

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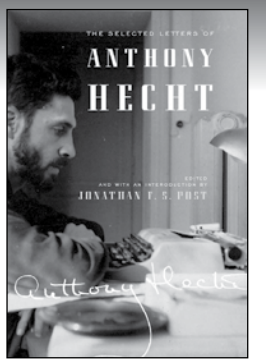

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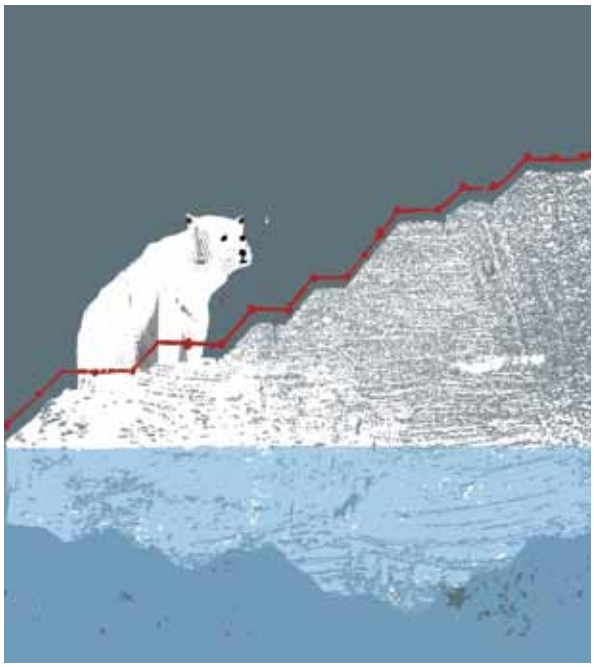

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"I have a deep connection with the university, so putting Johns Hopkins in my will was natural for me. It's tantamount to saying, 'Hopkins, you're a member of my family.'"

Paula E. Boggs, Esq., A&S '81
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Contributors

Daniel Zender ("Warmer, Fresher, Worrisome," illustration, p. 12) is a freelance illustrator and designer based in Brooklyn, New York. His work has appeared in the *Los Angeles Times*, the *Boston Globe*, the *New York Times*, and Kansas City's the *Pitch*, among other publications.

Rachel Wallach ("Missing from Middle School," p. 23; "More Than Meets the Eye," p. 74) is a Baltimore-area freelance writer. Her work has appeared in several divisional Johns Hopkins publications, including *Johns Hopkins Engineering*, *Johns Hopkins Public Health*, and *Arts & Sciences* magazine.

Max Hirshfeld ("May It Go to the Heart," photograph, p. 28), is a Washington, D.C.–based photographer and the son of Auschwitz survivors. He has shot for a number of advertising, design, and editorial clients, such as Canon, Johnson & Johnson, AARP, the *Washington Post*, *Time*, *Vanity Fair*, *GQ*, and *Sports Illustrated*.

Mat Edelson ("Flu Scare," p. 36) is a Baltimore-based health, science, and sports journalist and former director of the Johns Hopkins Health Newsfeed. He is a regular contributor to *Hopkins Medicine Magazine*, *Johns Hopkins Public Health*, and *Johns Hopkins Nursing*.

Paul Sahre ("Flu Scare," illustration, p. 36) is a graphic designer, illustrator, educator, and author. A frequent visual contributor to the *New York Times*, his clients also include *Time*, the Sundance Channel, *This American Life*, Knopf, Beacon Press, and Simon & Schuster, among others. He lives and works in New York.

Brennen Jensen ("Bodies and Bucks," p. 68) is a Baltimore-based freelance writer and a former senior reporter for the *Chronicle of Philanthropy* in Washington, D.C. His work continues to appear in the *Chronicle*, in addition to *Washingtonian*, *Baltimore* magazine, and other regional publications.

On the cover
Artist **Mark Smith** created the illustration of Homewood Museum's historic privy for our cover. Smith is a full-time illustrator and associate lecturer at Plymouth University in Devon, England. His clients include the *New York Times*, the *New Yorker*, the *Financial Times*, the *Guardian UK*, the *Globe and Mail*, *Nature Journal*, and *ESPN The Magazine*, among others.

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PHOTOGRAPH BY DALE KEIGER

VOL. 64

Obviously, Johns Hopkins is an academic powerhouse.

Anyone who pays attention to college sports knows the university is a lacrosse powerhouse as well. But lacrosse players aren't the only Blue Jays bringing home trophies.

As the magazine went to press in November, the Office of Communications was buzzing from the women's cross-country team's national championship win, led by freshman Hannah Oneda. Folks were excited about the football team, too, which was headed into the second round of the NCAA playoffs. (See "Jays Win, Win, Win," page 63, for more fall sports highlights and "Bodies and Bucks," page 68, to learn about the Forever a Blue Jay Challenge.)

In fact, over the last 15 years, athletes from 23 of the university's 24 varsity teams have qualified for NCAA championship play. That's a lot of winning. I'm always impressed by the hard work and focus it takes to earn a Johns Hopkins degree. But I'm kind of floored that those same students manage to be similarly dedicated to their athletic pursuits. It speaks well of their time management skills. More importantly, it shows their drive to excel—a sure sign of a Hopkins mind.

Dale Keiger, who has been photographing that drive at team practices for a yearlong project, says he didn't even know who Hannah Oneda was when he took the photo above. Look for his photo essay in the Fall 2013 issue, and in the meantime, visit the Hub (hub.jhu.edu) for regular Blue Jays news.

EDITOR Catherine Pierre

The idea of a "90-year divide" seems to be a dated concept from a time when there was no science to bridge complementary efforts to understand the whole human being.

What divide?

I read "The 90-Year Divide" [Fall] with interest and concern.

Interest because I am a Johns Hopkins MD and was a Phipps psychiatric resident, so that Hopkins and Adolf Meyer are at the core of my professional identity. Concern because the authors, on the one hand, trivialize the differences that once existed between Freud's psychoanalytic and Meyer's psychobiological approaches and, on the other, overlook the current knowledge-driven reconciliation of the mind-body-social, conscious-unconscious divides.

There were some sharp differences between psychoanalysis and psychobiology in the early days, but the personal and personnel problems between Adolf Meyer and Clara Thompson, so emphasized by the authors, have nothing to do with the real differences between Freudian psychoanalysis and Meyerian psychobiology. Meyer was formulating an effort to look at the whole person, a departure at the time that is of enduring significance. Freud was engaged in paradigm-shifting work on the unconscious mind. Both were making valuable but very different contributions.

The authors' "divide" also extends to organized psychiatry. They report that [Johns Hopkins psychiatrists] [Paul] McHugh and [Phillip] Slavney question the *Diagnostic and Statistical Manual of Mental Disorders* and are in favor of a more Meyerian approach that takes into consideration the enduring aspects of the patient's life and their influences on the causation of illness. Psychoanalysts, too, have had objections to the *DSM*. In fact, a consortium of psychoanalytic organizations published the *Psychodynamic Diagnostic Manual* in 2006, which states that it "is a diagnostic framework that attempts to characterize the whole person—the depth as well as the surface of emotional, cognitive, and social functioning."

When the psychoanalytic consortium's *PDM* seeks a fuller understanding of mind and brain in a social context, the divide begins to disappear. The divide vanishes in Eric Kandel's 2012 book, *The Age of Insight*. Kandel, a Nobel laureate for neuronal research, demonstrates how neuroscience is illuminating the brain pathways that are the biological substrate of the unconscious mental processes Freud first glimpsed in the clinical setting. For Kandel there is no mind-body discontinuity, as the mind is firmly seated in the brain.

The idea of a "90-year divide" seems to me to be a dated concept from a time when there was no science that provided a bridge for complementary efforts to understand and serve the whole human being.

The authors' approach is entertaining but, I fear, does a disservice to the convergence of clinical and scientific observations around the social person who has both a brain and a mind.

Jon K. Meyer, Med '64, HS '64–'67, '69
Professor Emeritus, Psychiatry and Psychoanalysis, Medical College of Wisconsin
Past President, American Psychoanalytic Association
Lutherville, Maryland

Holding hospitals accountable

[Marty Makary's book, *Unaccountable: What Hospitals Won't Tell You and How Transparency Can Revolutionize Health Care*] is admirable, to say the least ["Hospital, Heal Thyself," Fall]. Speaking as a caregiver whose children experienced medical errors in 2010 (one event was sentinel), I think we need more medical professionals willing to take on transparency and openness. It's not only good for patients and their outcomes but healthy for doctors and nurses as well. I'd like to share a short documentary, titled *The House of Gort*, about one of the medical errors my family experienced. (The film can be

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viewed online at https://vimeo.com/46597387.) It's tangible for medical professionals and done in a way that can be measured, which is something scientists love.

Tim Gort
www.timgort.com
Marquette, Michigan
Comment from hub.jhu.edu/magazine

We need more medical professionals willing to take on transparency and openness.

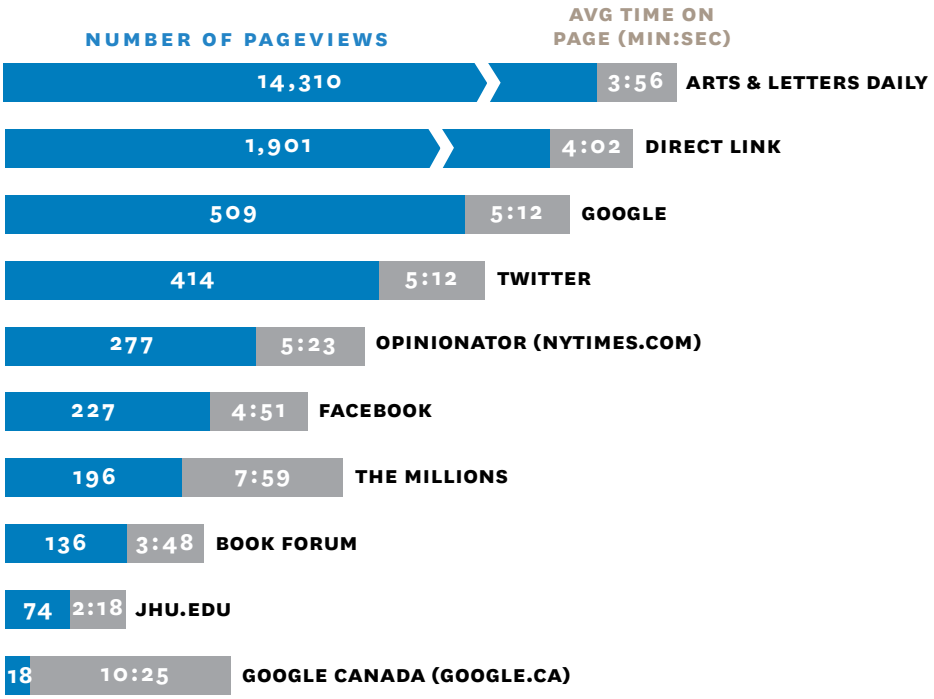
Getting technical

I wish to compliment Bret McCabe on his well-written article "Making Notes" [Fall]. It is good insight into the collaboration of a performing artist and an instrument maker to produce an instrument that meets the performer's requirements. It reminds me of the period of time when I owned a French horn pro shop and was working on a similar project with the late Glenn Janson of the Philadelphia Orchestra. Unfortunately, due to his untimely demise, the horn never came to full fruition.

I wish to offer one technical clarification. The bore of a valved brass instrument is the inner diametric dimension of the inner cylindrical tubing coming off of the first valve. Typically, the size of the valve tubing is the same for the tubing of all three valves. In addition to the aforementioned cylindrical tubing, all brass instruments are built with a large amount of conical tubing referred to as the taper of the instrument. Verbally describing the taper of an instrument is a rather abstract task, in that the taper does not fit into the constant slope of a linear equation. A small-bore instrument as described in this article will have a more gradual taper than an instrument with a larger valve bore. In that both the small-bore and the larger-bore B-flat trumpets are 4 1/2 feet from the mouthpiece to the rim of the bell, the taper of the conical lead pipe of the smaller-bore trumpet will reach its maximum diameter at the cylindrically bored main tuning slide with a lesser increase in inner diameter per distance down the lead pipe than will the lead pipe of the trumpet with a larger valve bore. The same goes for the taper of the conical tubing from the valve cluster to the bell. In brass instrument design, the taper of the conical tubing is critical in determining the intonation of the instrument relative to itself—in other words, the bad notes that were found on the penultimate prototype described in the article.

Randolph Harrison
Instructor of Applied French Horn and Low Brass, Maryland Conservatory of Music

Sources of online readers for "Structuralism's Samson" (Fall 2012)



Advanced mixology

Apropos of "Sunshine with a Twist" [Fall], might I suggest freezing the lime-purified water and adding the resultant cubes to a tincture of quinine? London Dry seems the perfect solvent. Ah, the perfect summertime disinfectant!

William A. Irgens, A&S '68
Baltimore, Maryland

CORRECTIONS

In "Lost, Found, Restored" [Fall], we credited the discovery of a lost Eugene Leake painting to Michael Sullivan of the Office of Facilities Management. As it turns out, there are four Mike Sullivans at Johns Hopkins and we picked the wrong one. The Leake painting was identified and salvaged by Michael L. Sullivan, director of finance and administration for Homewood Student Affairs.

In "Class Notes" [Alumni, Summer], we misidentified the class affiliation for P. Rea Katz. Her correct affiliation is A&S '77.

"In Memoriam" [Alumni, Fall] incorrectly listed David A. Bennett, SAIS Bol '73 (Dipl). The correct obituary should have been Ephraim David Bennett, SPH '66 (PGF), February 21, London.

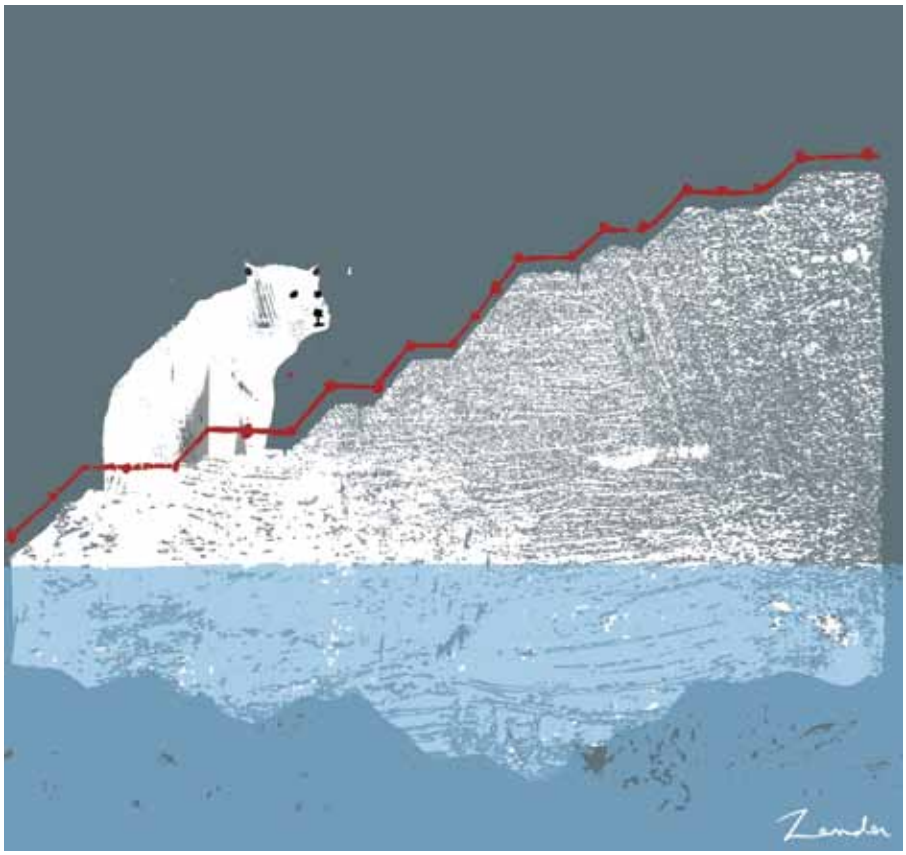


ILLUSTRATION BY DANIEL ZENDER

Warmer, Fresher, Worrisome

Interview by **Dale Keiger**

At the end of every summer, climate scientists monitor a key indicator called the Arctic sea ice extent. As the name suggests, this is the measure of how much of the Arctic Ocean remains frozen at the end of the warmest months. This year, the end-of-summer Arctic ice cap was the smallest on record—in the far north, there was less floating sea ice and more open seawater than ever observed. Thomas Haine, an oceanographer and professor of Earth and planetary sciences in the Krieger School of Arts and Sciences, has been working to monitor and understand how water flows out of the Arctic, especially freshwater. He warns that major changes in the Arctic ice cap could be part of a chain of effects that could alter ocean composition, Atlantic currents, and the rate of global climate change.

Context

Some of the substantial changes in the Arctic are apparent and well publicized. "The minimum sea ice extent is now at about half what it was, say, in the 1980s and 1990s. That can be measured from satellite quite well," says Haine. "But you need to worry about not only extent but thickness. It's much harder to measure, but the measure we have shows that the ice is, roughly speaking, about half as thick as it was. So it's half the extent, half the thickness. By the end of summer this year, it was three-quarters gone." Also apparent have been rising temperatures—Arctic temperatures have increased at almost twice the global average rate in the last 100 years. But oceanographers like Haine have a list of less apparent changes that may be part of an ominous overall picture.

Data

In the Atlantic Ocean, warmer, saltier water moves in a northeasterly upper ocean current from subtropical waters toward Europe, helping to moderate the climate in places like Great Britain. This surface flow is counterbalanced by a southerly flow of colder, deeper water out of the Arctic, forming an ocean conveyor system known as the meridional overturning circulation, or MOC. Scientists project the MOC will slow down in the 21st century. Haine participates in Arctic/Subarctic Ocean Fluxes, known as ASOF, an international oceanographic research program established in 2000 to study fluctuations in the mass, heat, ice, and com position of the Arctic and northern Atlantic oceans. ASOF is keeping its collective eye on several changes in the Arctic that might relate to changes in the MOC, including a striking accumulation of freshwater.

Upshot

Haine ponders the interconnections that are part of a complex system that scientists by no means fully understand. He points out that when Arctic ice melts, this lowers the albedo, or the reflection of solar radiation by white ice. Lower albedo means more heat from the sun is absorbed rather than reflected, which raises temperatures, increases the pace of global warming, and speeds the ice melt—which further increases warming. Higher temperatures mean the air holds more water vapor, and that means more precipitation. More precipitation means more freshwater entering the northern ocean. Freshwater is lighter than salty water, so researchers anticipate a lesser volume of salty, denser water sinking to form that deepwater flow essential to the MOC. Now add all the freshwater flowing from the melting Greenland ice cap. Says Haine, "We anticipate there will be changes in this deep-ocean circulation. These things are all connected and coupled in ways which are not entirely clear."

Conclusion

Changes in ocean circulation are bound to cause further changes in global climate. Scientists are certain that Arctic water is becoming fresher. This can only mean that freshwater is building up in the Arctic Ocean, and indeed this has been measured in a portion of the ocean called the Beaufort Sea. One day, perhaps from something as simple as a change in wind direction, that accumulated freshwater will likely flow into the northern North Atlantic. No one knows what *that* might do to the ocean conveyor system. Says Haine, "It's a fascinating time to study the changing Arctic Ocean. We have ideas about what may happen and we must ensure that the right observations are made to see the changes unfold."

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I certify that the statements made by me above are correct and complete.
—Ann V. Kirchner, Business Manager

TINY TREASURES Railroad magnate and original university trustee John Work Garrett picked up these miniature Japanese masks, called netsuke, during his second trip to Japan as a member of Johns Hopkins Hospital's medical commission. They're now in Evergreen Museum's permanent collection, and New York artist Mark Dion included the masks as one of many cultural and scientific curiosities in his installation for the Brody Learning Commons. Titled *An Archaeology of Knowledge*, it is a visual bricolage of the university's intellectual diversity. **Bret McCabe, photo by Will Kirk**

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1

BUSINESS

Outsiders Create

Bret McCabe

Creativity has become a management buzzword. Everybody wants it—creativity was named *the* most crucial factor in determining future success in IBM's Global CEO Study from 2010, which queried 1,500 CEOs from about 60 countries. It's the secret sauce that separates the Apple Macintosh from the Commodore 64. Without it there'd be no iPhone, Human Genome Project, or career of Malcolm Gladwell.

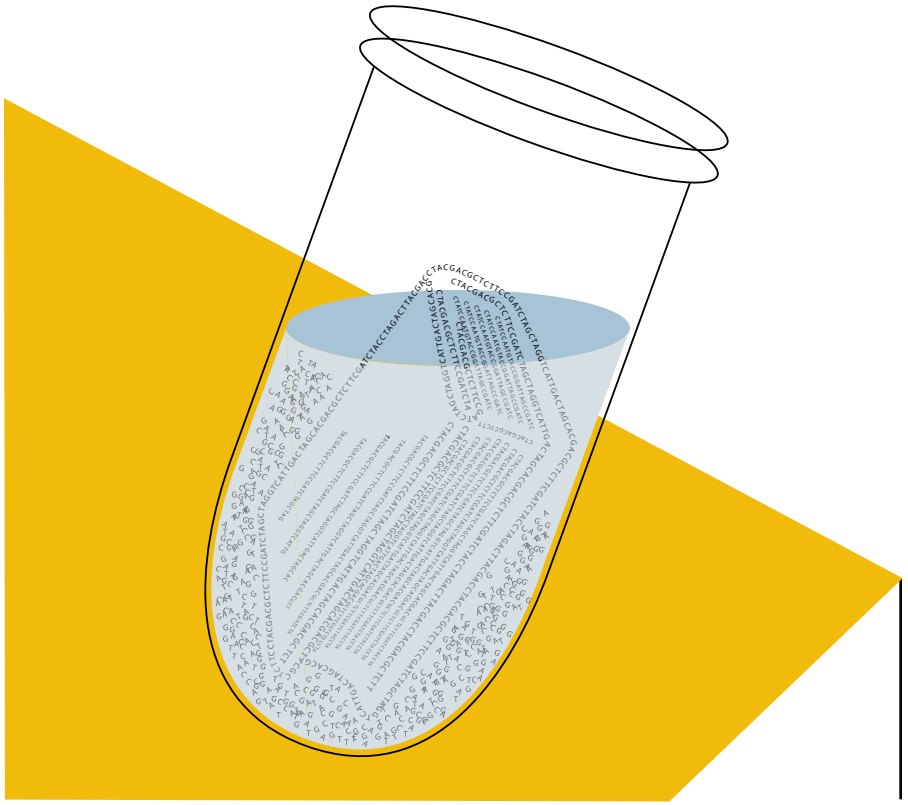
The problem is that creativity is hard to qualify. "Creativity is this skill that everybody cares a lot about, but we don't actually know a whole lot about it empirically," says Sharon Kim, an assistant professor at the Carey Business School. "From a business perspective, I think what makes it a valued skill is that it's the precursor to innovation, and that also it can be very helpful in problem-solving situations." She continues, "But there's a lot of mythology that surrounds it. My platform of research is going through and picking these things that pique my interest and then testing them empirically."

In her 2012 paper "Outside Advantage: Can Social Rejection Fuel Creative Thought?" Kim and her co-authors (Jack Goncalo and Lynne Vincent) began with the anecdotal assumption that creative types are outsiders who feel isolated from the norm. "We were inspired by what we felt was a persistent theme in the press, where we kept hearing about people who spoke about their previous experiences with social rejection as being fodder for future creativity," Kim says. "I think this was something that resonated with the three of us personally as well, just sort of feeling always a little bit different from other people."

In a series of three psychological tests, Kim and her co-authors subjected undergraduates to a rejection experience (such as informing them they weren't going to be chosen for an activity) and then gave them a cognitive exercise, such as a Remote Associates Test, wherein they must provide a word that unites three seemingly unrelated words. A self-construal variable—how individuals perceive their place in the surrounding world—and structured imagination assessments were added to the second and third runs of the study, respectively, to explore how feelings of both independence and rejection relate to creativity and cognitive ability. What they found is that independently minded participants performed more creatively than their counterparts who had been included in the group.

Their results proved the anecdotal understanding that, as they write in their paper, social "rejection is not merely a byproduct of the fact that creative people can be unconventional but that the experience itself may promote creativity." That's not to say that ostracizing employees is the way to incubate creativity, or that all outsiders are inherently creative people. Rather, the outsider's perspective can be what enables a person to thrive and succeed.

"I think the hero in this story is independence," Kim says. "That is something that people don't talk about often, the benefits of being different. I think as a society we're more tolerant in many ways, but I still feel that there's a strong pressure to conform. And I think that identifying the ways in which being independent can foster creativity is important."



2

SYNTHETIC BIOLOGY

DNA Hard Drive

Dale Keiger

Yuan Gao greets me with a question: "Do you have a sentence you can give me?"

We are in his office at the Lieber Institute for Brain Development on the Johns Hopkins medical campus. Gao, an investigator at Lieber and an associate professor of biomedical engineering at the Whiting School of Engineering, waits, fingers poised over his computer keyboard. I respond to his request: "How does DNA encoding work?"

Gao nods and types the sentence into the computer. On the monitor, a string of letters appears: CTACACGA GCTCTTCCGATCT and on and on for about 500 letters. If that sequence seems familiar, it is because it represents the string of nucleotides that comprise DNA: adenine (A), cytosine (C), guanine (G), and thymine (T). Gao's computer has taken my sentence and converted it to DNA code. Were he then to run that code through a machine known as a DNA synthesizer, he could produce actual strands of synthetic DNA, either in solution or as a powder, that contained my sentence in the sequence of nucleotides. If I ever wanted to retrieve my words, I could simply run the process in reverse, using a DNA sequencer to "read" the code and convert it to text.

The point of using synthetic DNA as a sort of double-helix hard drive is simple—you can store an astounding amount of data in the tiniest amount of space, and that storage will be stable for what amounts to forever. George Church, a geneticist at Harvard University, has calculated that a single gram of DNA could hold 4.5 billion gigabytes of data and remain stable for millennia. "Theoretically, you could store everything in the universe," Gao says. Plus DNA will always be DNA, which means the data will still be readable thousands of years from now, unlike all the data written in obsolete computer languages that have accumulated on cassette tapes, flash drives, and Zip disks. Remember Zip disks? Tried to read one lately?

You will not be able to buy a laptop with a DNA drive anytime soon, but Gao recently contributed to a demonstration of DNA's data-storage potential, led by Church, who formerly was Gao's postdoctoral adviser. Along with Sriram Kosuri, also of Harvard, Church and Gao took a volume co-authored by Church, *Regenesis: How Synthetic Biology Will Reinvent Nature* and *Ourselves*, converted the book's 53,426 words, one JavaScript program, and 11 images from HTML format to binary code—a long string of 0s and 1s—and used a computer script written by Church in the Perl programming language to convert those 0s and 1s into DNA code—strings of ACGTs. They sent that code by email to a company, Agilent, which ran it through a synthesizer and produced synthetic DNA that contained several copies of Church's book. Several in this case meaning 70 *billion*. Quite the press run.

Sequencing always introduces errors—DNA typos, in a sense—which could result, for example, in my retrieved sentence reading, "How does DNB encoding work?" To counter this, the technique developed by Church sequences the same DNA code 3,000 times, then compares the sequences

to produce a consensus of the correct code, an ingenious sort of proofreading that virtually eliminates errors. Gao likens it to 3,000 proofreaders reading a text and voting on the correct placement of each letter and punctuation mark. One editor might miss something. Three thousand will not.

After walking me down a hall in the lab to show an example of a DNA sequencer, which bears an uncanny resemblance to a microwave oven attached to one of those mini refrigerators popular in dorm rooms, Gao points out an odd aspect of sequencing—errors can happen anywhere, but they tend to occur near the end of the string of nucleotides. "It's like a human reading," he says. "At the beginning, you're focused. At the end you are tired and distracted. Sequencing is the same way. It's amazing."

3

PEABODY

Formanek Talks Formanek

Dale Keiger

The dexterous bassist Michael Formanek appreciates patience in his jazz collaborators. When he composes, he might write an opening section, then designate space for improvised piano but refrain from giving further guidance about how he imagines that improvisation turning out. "My attitude is to say as little as possible to the players, to have the music speak for itself," he says. "It's important to write music that's provocative enough to spur ideas." When he does spur something, he is happy when his bandmates "take small ideas from the music and just work them over time. I love playing in that environment where no one's in a hurry." No one is in a hurry on the new ECM recording *Small Places*, which Formanek (a Peabody faculty member since 2001) recently released. Pianist Craig Taborn, saxophonist Tim Berne, and drummer Gerald Cleaver respond to his compositional ideas with subtle explorations and elaborations, teasing out musical possibilities and engaging in nuanced conversations that in the studio occasionally struck Formanek as telepathic.

Just back from a tour of Europe, Formanek spends a couple of hours honoring a request to listen to and discuss *Small Places*, seemingly so relaxed it comes as a shock when he reveals at the end of the afternoon that the airline has lost his custom-made bass and he does not yet know where to find it.

During the first notes of the title cut, he talks a little process. "Sometimes I just start pushing some notes and rhythms around until I find something I like," he says. "Once I get going, I forget about whatever I started with." Taborn improvises and Formanek

PHOTOGRAPH BY SCOTT FRIEDLANDER

smiles. "He can sound like three guys when he wants to. It sounds like he can split his brain, it's pretty amazing."

The second piece on the record is called "Pong" because after he'd written it, it reminded him of the progenitor computer game. "It was the slowest video game in the world," he says. "The ball went back and you hit again and you could go to the bathroom and come back, it was that slow. Then it would start to get a little faster, then it would get hyper, and that's how this tune unfolds for me." "Pong" features some of Cleaver's nimble work on the cymbal. "That cymbal's just amazing. All through the record you find these beautiful patterns of his, very melodic."

"Parting Ways," at more than 18 minutes the record's longest cut, began life as a longer piano improv, Formanek's response to sorrow. "Within a couple of years, there had been a lot of people dying and a lot of people leaving. It had been that sort of time and I was thinking a lot about mortality, that was the pervasive feeling." The piece evolves slowly. At one point, Formanek can be heard in the background, behind Taborn's piano, playing some eerie figures that sound electronic. "That's up on the D string, playing harmonics that center around the third, the F-sharp, playing close to the bridge and moving slightly up and down so you get that sound that's almost like feedback, or wind whistling through trees. It's all done with the overtone series on a string." During one bit of "Rising Tensions and Awesome Light," Formanek snaps his fingers as he says, "That becomes a motor for the next section, a slow 5/2 . . . one . . . two . . . three . . . four . . . five . . . but we're playing faster in these rhythmic layers. There's a rhythmic thing I like to do where there's a big slow pulse and faster pulses within that. It's like gear ratios—you have one big gear moving like this"—with his hand he scribes a circle in the air—"and a smaller gear moving faster in sync with it, then there's a third one even faster, and they all exist simultaneously in the piece."

He listens to "Slightly Off Axis" and says of the band, "They'll go as far into outer space as you want to go musically, but they're not afraid to play pretty. I love nothing more than playing beautiful melodies with lush harmonies, but if I had to do that all the time I'd shoot myself." The record's last cut, "Soft Reality," features Cleaver backing the melody with drone notes sounded on a shruti box, an Indian instrument similar to a harmonium. Formanek says, "I don't use drones often, but I had this strong idea. I brought in the shruti box thinking if this was just ridiculous we wouldn't try it, and it just sounded great."

The record ends, and before Formanek goes back to calling the airline in search of his missing bass—it arrived in the middle of the night two days later—he says of *Small Places*, "It really sounds good. At a certain point I stop thinking about it as mine and more as just music, and that's a good feeling. It sounds beautiful. I'm very happy with it."

4

HISTORY

Riot Girls and the Russian State

Bret McCabe

Nikolay Koposov doesn't much care for Pussy Riot's music. A visiting professor in the Krieger School of Arts and Sciences' Department of History, Koposov is a historian, author, and St. Petersburg native who appreciates the artistic freedom of the all-female Russian punk rock band that found itself in the international spotlight after a February performance in a Moscow church landed some of its members in jail. But the music itself? Not so much. "It's maybe that I'm a little bit [of an] old-fashioned professor, but for me it's a little bit artistically wild style," he says.

In understanding contemporary Russian politics, however, Koposov sees the Pussy Riot case as another example of how the Russian state polices its history. "Pussy Riot was the first really serious manifestation of the change of the political line, the turning point in the different phases of [Russian President Vladimir] Putin's politics of institutional memory and internal politics," says Koposov, who says the Russian state is moving from more subtle ways of control to active censure.

He has personal experience with this change. In 1999, he became the founding dean of Smolny College of Liberal Arts and Sciences, Russia's first liberal arts college, a partnership between Bard College in New York and Saint Petersburg State University. He occupied that post until 2009, when he and his wife, Dina Khapaeva, Smolny's first director for international relations and research, were invited to be guest scholars at the Helsinki Collegium for Advanced Studies in Finland.

In May 2009, before they took their research leave, then Russian President Dmitry Medvedev formed a commission of legislators and intelligence officers to identify efforts to falsify "history to the detriment of Russia's interests." The resultant "memory laws"—initially drafted to contest foreign governments' "revisionist" versions of World War II that diminish the Soviet Union's role in liberating Nazi-occupied territories in Eastern

AP PHOTO/SERGEY PONOMAREV

The Russian punk rock band Pussy Riot

Europe—also curtailed historians' scholarly work. After Koposov, his wife, and their colleagues organized a petition against the laws, the government said their academic writings were a danger to Russian national security, and they lost their Smolny positions.

Today Khapaeva is the chair of modern languages at Georgia Institute of Technology, and Koposov is at Johns Hopkins. His fall 2012 course, titled Why Putin? The Rise and Fall of Democracy in Russia, 1985–2012, in part explores the idea that history can be considered a memory shared and created by governments and their citizenry.

Pussy Riot, says Koposov, stepped right into that process when the group entered Moscow's Cathedral of Christ the Savior and performed "Punk Prayer —Mother of God, Chase Putin Away!" which directly indicts the church and state's collusion of power. Pussy Riot was formed in August 2011 after Putin announced he would seek another presidential term. The Russian Orthodox Church's head cleric, Patriarch Kirill, called for parishioners to vote for Putin, even calling Putin's era a "miracle of God."

The band was prosecuted for hooliganism, defined by Russia's criminal code as a "flagrant violation of public order expressed by a clear disrespect for society." To Koposov, the charge is an example of how Russia's national narrative is now being handled by the state. When Medvedev was president, the deputy head of the presidential administration, Vladislav Surkov, dominated the ideology of the state's memory politics. "His game was always manipulating historical consciousness in indirect ways," Koposov says. The 2009 memory laws, Koposov wrote in a January 2011 essay, established a new mythology of Josef Stalin's World War II–era Soviet Union that "emphasizes the unity of the people and the state, not the state's violence against the people." Now, the state's narrative is being handled differently, Koposov argues. "Now the game is just arresting, organizing falsified trials, putting people in jail, and trying to shut them up. It's much more straightforward."

To the West, the women of Pussy Riot may look like punk feminists in the artist/activist mold of Bikini Kill. To Russians, however, the all-women band speaks directly to notions of national identity, says Anne Eakin Moss, an assistant professor in the Humanities Center who is at work on a book that explores how women have been used in Russian and Soviet film and literature to express ideas of collectivity. "The idea of Russian vitality is linked up with this idea of women in a group together."

It's a reading that gives Pussy Riot a slightly different symbolic power. "I think the Western media assumes that they're a feminist group," Eakin Moss says. "But they're not saying that much about women. They're saying a lot about power relations in Russia today, the verticality of the power structure, and the way in which the state has affiliated itself with the church and used the church to set up its sovereignty in post-Soviet space."

Such actions highlight what those old saws about history—about not knowing it and being destined to repeat it, about how it's written by the victors, etc.—have in common. How we remember how we got here is continually written in the present, subject to the foibles of ordinary people who sometimes wield extraordinary power.

"This I know from my own experience," Koposov says. "When you pronounce yourself publicly about something that relates to the state politics of memory, you risk to get in trouble."

5

MEDICINE

Jimmy's Kids

Virginia Hughes

In July 1998, Robert Stone was a healthy 13-month-old baby. Then, suddenly, he wasn't. He began having one-minute spells of muscle failure, such as abruptly dropping a toy or falling over. After a few days, that escalated into 10-minute episodes that affected muscles throughout his body. He spent weeks in the hospital until doctors ruled out everything they could test for and sent him home. By age 3, Robert was confined to a wheelchair and eating through a tube. He seemed to understand everything around him but was unable to speak. For 13 years, his parents, Roger and Jeneva Stone, spent thousands of dollars (even with insurance) taking him from one hospital to another, searching for a diagnosis. They carried a binder stuffed with reports from more than 100 diagnostic tests. Just four showed anything out of the ordinary, and no one knew how to interpret any of them.

Then, in the summer of 2011, Jeneva heard about the Rare Genomics Institute, at the time a nascent nonprofit that sought to raise money to pay for sequencing the genes of children with mysterious diseases. RGI creates online fundraising campaigns for each child using the crowd-funding model most associated with Kickstarter. Crowdfunding works through Web pages that describe specific projects in need of money and solicit online donations—typically small contributions from family, friends, and friends of friends.

RGI's founder, Jimmy Lin, Med '12 (MD/PhD), is a 33-year-old computa-

tional geneticist at Washington University in St. Louis. He had done research in Johns Hopkins oncologist Bert Vogelstein's lab, sequencing the genomes of cancer tissues, and worked clinical rotations at the Kennedy Krieger Institute. While at Kennedy Krieger one day in the spring of 2011, Lin met a family whose young son had a mysterious, painful illness. After several hours of tests, Lin heard his colleagues tell the boy's mother that they thought her son had a rare genetic disease, but they couldn't know for sure. "When I heard that, I was like, whoa, I spent my PhD sequencing genomes for cancer. Why don't we do this for rare diseases?" Lin recalls. He has not forgotten the look of disappointment on that mother's face. "I thought, there has to be something that we could do for families like this."

Some 7,000 rare diseases, most with genetic roots, affect 350 million people worldwide. Gene-specific tests have been developed for some rare diseases, such as cystic fibrosis. For the rest, the only hope of finding a diagnosis lies in sequencing the genome. The money needed to screen a handful of genes a few years ago can now pay for rapid sequencing of thousands of genes, but it costs several thousand dollars per person and is not usually covered by medical insurance.

Lin decided to bridge that gap and founded RGI. RGI first finds families whose children are most likely to benefit from gene sequencing. The children usually have clinical features that point to a genetic disease, such as anatomical defects, as well as a history of negative results on other kinds of genetic tests. For each child, RGI then creates a fundraising page on its website. Once a family raises the $7,500 minimum—enough to sequence the exome, or protein-coding part of the genome, of the child and both parents—RGI connects them to participating scientists who can read genomes and root out possible disease-causing mutations. Pinpointing a genetic cause can be a huge relief to families. But having a diagnosis also raises the possibility of finding treatments that have worked on others with similar diseases, or even developing new treatments.

In July 2012, RGI completed the sequencing of its first child—a 4-year-old with speech and developmental delays who carries a mutation that's almost certainly the cause. So far, 20 projects have launched; nine have been fully funded and three completed, Lin says. This kind of analysis is still in its infancy, and researchers often can't deduce which mutations are benign and which cause trouble. As luck would have it, the researchers have fingered genetic culprits in all three of the RGI children who have been sequenced so far. Basing his conclusions on published studies, Lin estimates that the overall success rate will be between 25 and 33 percent.

For the Stones, RGI was worth the risk. "I saw it as a last-ditch effort to figure out what was wrong," Jeneva Stone says. Within six weeks, the Stones' campaign had reached the $7,500 goal. Nine months later, they had Robert's results. He carries two mutations, each extremely rare, one on each copy of a gene called PRKRA. Errors in this gene cause a syndrome called dystonia 16; Robert is the ninth reported case.

Like many families, the Stones found solace in the certainty of the diagnosis. They won't be adding any more useless test results to their binder. The diagnosis also indicates that certain drugs are likely to work slightly better than others, and that Robert probably has a normal intelligence. The discovery also revealed that his disease will most likely get worse, but that also is useful to know. "We can prepare ourselves and our family, and also provide Robert with the appropriate types of emotional and life support," Stone says. "Information is a source of power."

6

REAL WORLD

The Employment Games

Kristen Intlekofer

Buy low and sell high. Sounds easy enough. You start with a $400,000 trading limit and plenty of time on the clock. The $100/unit price offered by INITVE seems reasonable. A thousand units for only $100 each? You click Buy. The market looks like it's going up, so, titan of industry that you are, you sell your 1,000 units at $102, making a nice $2,000 profit. Easy. But then the client trades start coming in. Buy 1,500 units from FORTNE at $104/unit? What's the market doing? Is it going up or down? Now another incoming client trade. The clock is ticking. Too late—you react too slowly and both trades are canceled. A few moves later, the market seems to be going down steadily, so you sell short—1,000 units from ARBITR for $101/unit. To make a profit, now you'll have to buy for less than you sold to replace the borrowed shares. You wait until you see RISKER offering $97. You click Buy, only to see the word *Rejected* flash on the screen. INITVE is offering $99—Buy! *Rejected*. The market is going back up . . . your time is winding down . . . 3 . . . 2 . . . 1. Congratulations. You just lost $30,000.

The game is UltraTradr, part of a suite of psychometric assessments

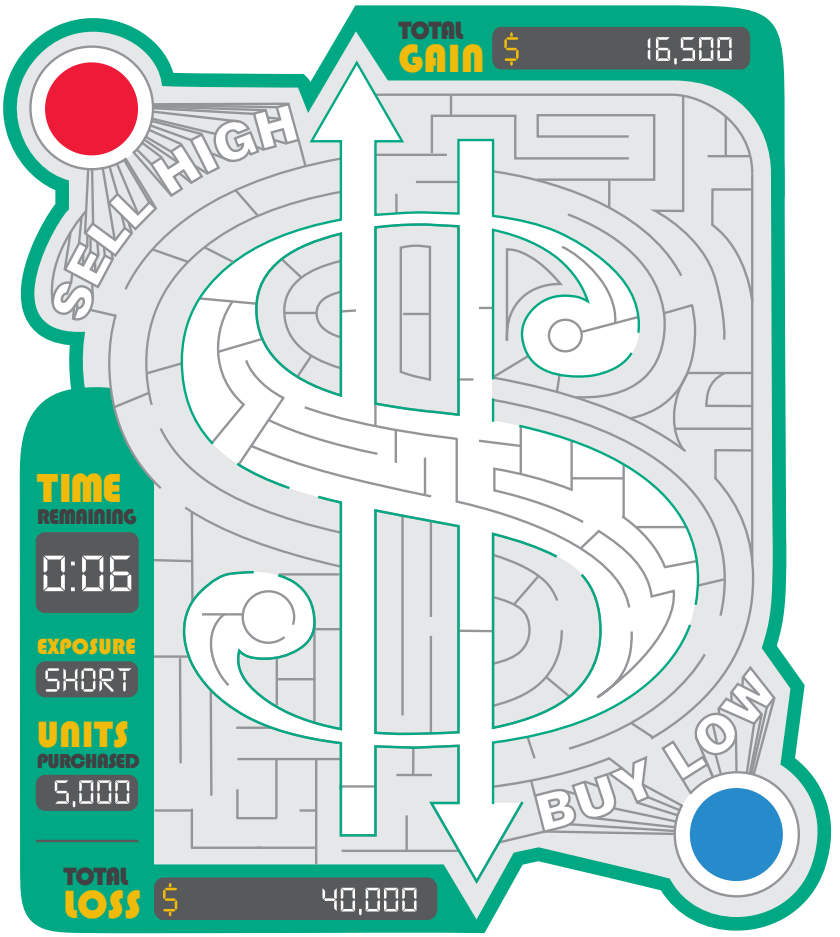


ILLUSTRATION BY KENNY CARTER

offered by New York–based startup ConnectCubed. Originally developed as a market simulation game for aspiring traders, "UltraTradr is also useful as a psychometric assessment," says Michael Tanenbaum, A&S '09, SAIS '10, ConnectCubed's co-founder and CEO.

The company's idea is this: Make fun games that generate psychometric data for employers. To that end, it has partnered with two consulting psychometricians from Columbia University to develop a testing platform that uses games instead of tests. Working directly with employers, it helps assess candidates in a company's hiring pool. "We work within the framework of what firms are already doing [to screen candidates], but we encourage them to use games as well," explains Tanenbaum. Part of the goal is to help employers identify the best candidates, but he says ConnectCubed also wants to help job seekers obtain positions on a meritocratic basis. Instead of relying solely on more traditional criteria, such as education and experience, candidates have the opportunity to further distinguish themselves through their performance on psychometric assessments.

Jillian Macnaughton, A&S '10, who works closely with applicants as ConnectCubed's community manager, says that another possible benefit of games as assessment tools is their potential for dynamic testing as gamers hone their skills over time. This also provides longitudinal data, Tanenbaum says, so the company can recommend job seekers for positions that are likely to be a good fit—a plus for the banks, hedge funds, and private equity firms that make up ConnectCubed's small but growing client base, which it is looking to expand to other industries. Through not only the games but the social interaction on the site, ConnectCubed can collect other data on job candidates, such as response times and personality types. For example, one set of online behaviors might indicate that a player is well-suited for a job as a trader; another might mean he or she is a deeply analytical thinker who would be more satisfied working on long-term projects.

7

EDUCATION

Missing from Middle School

Rachel Wallach

A few years ago, education researcher Robert Balfanz, A&S '84, began pinpointing indicators common to middle school students who eventually dropped out of school. Balfanz, co-director of Johns Hopkins' Everyone Graduates Center and research scientist at the university's Center for Social Organization of Schools, found something particularly striking: A sixth-grader in a high-poverty school who in a school year misses a month or more, *or* has sustained mild misbehavior issues, *or* is failing math or English,

has just a 1-in-5 chance of graduating high school on time or a year late. That is, a student who appears to be mostly on track but has just one of these indicators already has an 80 percent chance of dropping out or falling behind. "That's sort of staggering," Balfanz says.

Further study of the problem has led him to conclude that all parents—not just the parents of truants—should be concerned if they notice chronic absenteeism in their child's middle school. In a recent report titled *The Importance of Being in School: A Report on Absenteeism in the Nation's Public Schools*, Balfanz likened absenteeism to bacteria in a hospital—something unseen that nevertheless can create havoc for those kids who are in class. When too many students miss two or more days of school per month, he says, everyone in the class may suffer because teachers will have to repeat old material when chronically absent children are present, slow the progress of the entire class to accommodate them, or face behavioral problems from truant kids when they come to class and find that everyone else has moved on and they're now behind.

Balfanz and his colleagues had spent time implementing "whole school reform"—research-based improvements to teaching, learning, and school climate—and found that it helped students a little but not a lot. So, armed with their discovery of the early warning indicators, they developed a complementary approach called Diplomas Now to help schools identify and assist kids headed for trouble, which will benefit all students, as the report indicates. The early indicators of trouble become a focal point for school staff to look closely at their students. "Once you know the indicators, you can organize adults' attention around them," Balfanz says. Too often, he says, intervention has meant lone adults scrambling to help as many kids as possible. Diplomas Now helps schools create teams that share a common set of students and meet regularly to follow their attendance, achievement, and behavioral data, and share whatever they know about the students' lives. A student might need "nagging and nurturing"—repeated nudges about coming to school or studying for a test. Others may need solutions to major life situations—medical issues, employment, or gang recruitment—that call for intensive case management. Teachers can't provide all this support alone, Balfanz says, so partners like AmeriCorps, City Year, Communities In Schools, and Good Shepherd Services can provide additional adults to help nag, nurture, and connect students with appropriate resources to support unmet out-of-school needs.

Collaboration and sharing of information can be crucial. Not long ago, Balfanz listened while a team of skeptical teachers discussed indicators in a large New York school that was part of his study. One student kept cutting his first-period class, and that class's teacher was taking it personally. But another faculty member who taught the same student later in the day explained that the boy was late to school because he had to take his father to chemotherapy appointments in the morning. Balfanz says the first teacher's point of view was transformed and she began working to help the student pass her class. "There's no magic in this field," Balfanz says, "but that felt pretty close."

Balfanz and his colleagues are in the second year of a four-year $36 million federal grant to test Diplomas Now in 32 schools in 11 districts, covering some 40,000 students. The initial data look promising, he says: Half of the students who were flagged for one of the warning indicators in the first quarter had lost that indicator by the end of the first year. But in the near term, too many students in too many schools still will be truants, and Balfanz advocates schools publishing data on chronically absent students, so that all parents can be alerted if the school has attendance problems. Only six states currently count the number of students who repeatedly miss school.

8

NURSING

Discipline or Abuse?

Kristen Intlekofer

In her 2011 book *Battle Hymn of the Tiger Mother*, Amy Chua writes that, regardless of our uneasiness about stereotypes, numerous studies have shown clear differences between Chinese and Western parenting. In one such study, she explains, nearly 70 percent of the Western mothers interviewed said either that stressing academic success was not good for children or that parents should encourage the idea that learning is fun. But almost 100 percent of the Chinese immigrant mothers disagreed. "Instead," Chua writes, "the vast majority of the Chinese mothers said that they believe their children can be 'the best' students, that 'academic achievement reflects successful parenting,' and that if children did not excel at school then there was 'a problem' and parents 'were not doing their job.'"

Having grown up in Hong Kong, Grace Ho, Nurs '09, is well aware of such cultural differences. Now, as a doctoral candidate at the School of Nursing, she is launching a study to examine how varied cultural attitudes

toward responsible parenting might result in different definitions of physical discipline and abuse.

"I think the completely important gap is really looking at how we, or how parents, differentiate abuse from discipline," she says. "It's really a culturally dependent and value-laden concept in terms of how you differentiate it."

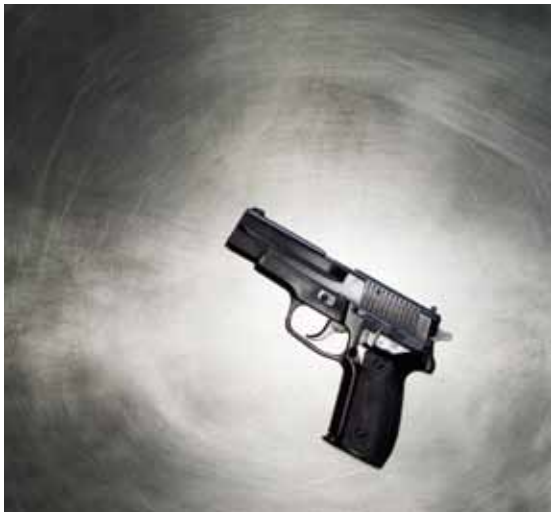
During the next year, Ho plans to interview 42 Chinese-American mothers as well as 40 pediatric nurses from Johns Hopkins about their perceptions of permissible discipline versus abuse. Through her study, she will examine how definitions of discipline and abuse differ across and within groups. Past research has documented some of these differences—for example, slapping a child's face may be an acceptable form of discipline to Korean parents, while Puerto Rican parents may place a tantrum-throwing toddler in a bathtub of cold water. Through her study, she also hopes to give voice to parents themselves—in particular minority parents—who are often not part of the discipline-versus-abuse conversation.

In 2010, more than half of child abuse and neglect reports were made by professionals, such as medical personnel. The problem—for parents and nurses alike, says Ho—is that the definition of what constitutes abuse can be vague and varies across cultures. "In the Chinese culture we believe in very strict, disciplined parenting," Ho explains. "We really want to foster obedience and harmony, emotional restraint, respect. But looking at Western literature, the focuses are parental warmth, independence. So it's very different." Nurses are required by law to report suspected abuse or neglect but receive little training in identifying abuse, and training is not standardized across schools and institutions. In talking with other pediatric nurses, Ho says, she has found that there is a sense of uncertainty, at times, in differentiating discipline from abuse. "And when you mix in the whole cultural component, it gets even more confusing for them."

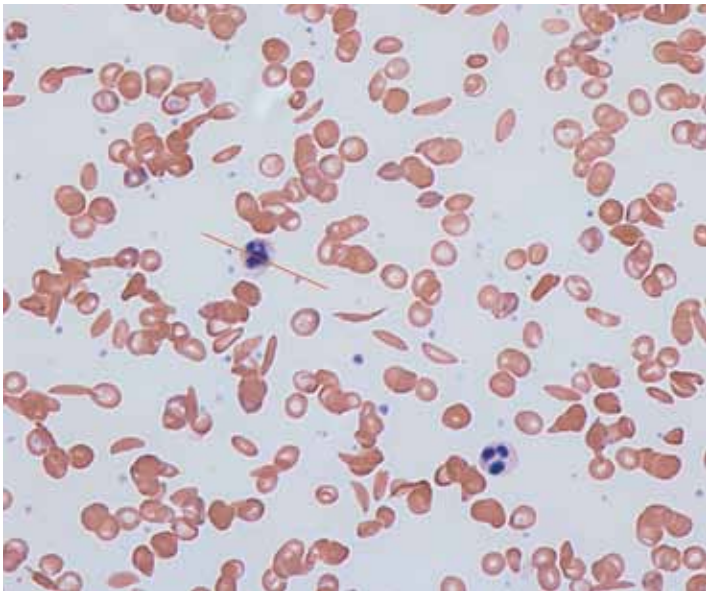
Better evidence-based guidelines for what constitutes abuse would not only protect child victims, Ho says, but would also help decrease inaccurate reporting. The U.S. Department of Health and Human Services Children's Bureau states that in 2010, there were more than 3.6 million reports of maltreatment (including neglect), but after Child Protective Services agencies investigated, four-fifths of the children were found not to be victims of actual abuse. Having a better understanding of the cultural gaps could pave the way for devising interventions or educational programs for parents. It could also help nurses and other mandated reporters better understand cultural differences, so they can more confidently and accurately identify child abuse when they *do* see it. "In a sense it's protecting the parents, but it also protects the child," Ho says.

PHOTOGRAPH ISTOCKPHOTO.COM

Bang: Right-to-carry gun laws do not inhibit violent crime.



Sickle cell: Bone marrow transplants from partial-match donors can still cure.



RIGHT: PHOTO BY GRAHAM BEARDS
LEFT: STOCKBYTE

By Dale Keiger

For more information on these Johns Hopkins research findings, go to hub.jhu.edu/magazine.

HOW ARE THE KIDS?

Sociologists tracked 11,000 U.S. children as they progressed to adulthood and discovered that foreign-born children and children of immigrant parents outperformed the offspring of native-born parents. The study measured academic achievement and adult psychological well-being.

Among parents who suffer from anxiety, those diagnosed with social anxiety disorder (the most prevalent) are more likely to trigger a genetic predisposition for anxiety in their children. Researchers found that moms and dads with social anxiety disorder showed less warmth and affection toward their kids, leveled more criticism, and more often expressed doubts about their children's abilities.

LIGHT AND SOUND

Astronomers detected light from what may be the most distant galaxy yet discovered. The tiny, compact galaxy is 13.2 billion light-years from Earth and was spotted by the Spitzer and Hubble orbiting telescopes. The light captured by the telescopes would have left the source when the universe was only 500 million years old, making the galaxy, in the words of one astronomer, "not even a toddler."

Engineers created a computer model that mimicked with 98.7 percent accuracy how the brain distinguishes the timbre of various musical instruments. The model could lead to substantial improvement in how hearing aid technology reproduces music for the hearing impaired.

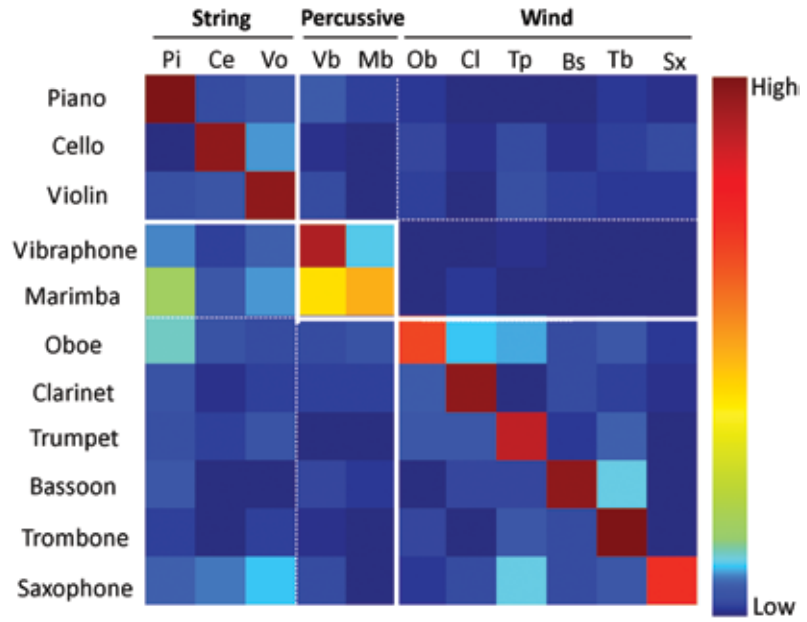
DANGEROUS ENVIRONS

Researchers recently ran the numbers on gun violence in the United States and reported that right-to-carry gun laws do not inhibit violent crime. Only five of the 50 states prohibit 18- to 20-year-olds from owning guns even though that is the age group most likely to commit homicide,

RIGHT: PLOS COMPUTATIONAL BIOLOGY
LEFT: MICHAEL TAYLOR

Germs: People who live near livestock have more drug-resistant staph bacteria in their noses.

Sounds good: Computer accurately models how the brain distinguishes musical instruments.



and easy access to high-capacity ammunition magazines leads to higher casualties in mass shootings.

Live near livestock and you are more likely to have MRSA in your nose. A team of scientists from the United States and Holland found that doubling the density of pigs, cattle, and veal calves in a geographic area results in a 24 percent to 77 percent increase in nasal carriage of methicillin-resistant *Staphylococcus aureus*. MRSA in the nose correlates to an increased risk of eventual infection.

Medical students have used modified open-source software to create a secure electronic medical records system for use by community free clinics that lack the money to buy a commercial EMR system. The digitized records will allow clinics to deliver more thorough and appropriate care to the inner-city homeless and uninsured patients served by those clinics.

IN PROTEIN NEWS . . .

Metastatic breast cancer begins its deadly advance by invading lymph nodes. Researchers have found that a protein, HIF-1, can launch the cancer's spread to the lymph system. The dense packing of cancer cells in a tumor creates a low-oxygen environment. To survive, the malignant cells activate HIF-1, which promotes growth of new blood vessels to bring oxygen to the cancer. The same protein now has been found to activate a gene implicated in the spread of the cancer to lymph nodes.

Drug-resistant tuberculosis bacteria form thick, triple-layered cell walls that allow the bacteria to fight off antibiotics. A single protein is responsible for creating essential chemical bonds within these unique cell walls, and scientists wielding X-ray crystallography have figured out that protein's shape, an essential step in designing drugs to kill the resistant bacteria.

IN THE BLOOD

Researchers demonstrated that bone marrow from a donor who is only a partial match to the recipient still can eliminate sickle cell disease in some transplant patients. The finding could make bone marrow transplants available to the majority of patients who require the procedure.

Medical researchers discovered that either a low-carbohydrate or low-fat diet not only has the power to trim the dieter's waistline, it also reduces systemic inflammation, thus lowering the risk of heart attack and stroke. The low-carb diet group lost more weight in the study, but both groups reduced the sort of whole-body inflammation that has been found to promote the formation of blood clots, interfere with the blood vessels' ability to control blood flow, and cause plaque to break away from arterial walls.

May It Go to the Heart

Rafael Schächter formed a choir of Jewish prisoners that committed Verdi's choral Requiem to memory and performed it 16 times at the Terezín concentration camp. Hearing their story taught conductor Murry Sidlin just how powerful music can be.

In 1994 Murry Sidlin, Peab '62, '68 (MM), was walking down Minneapolis' Hennepin Avenue past the Bryn Mawr Bookstore when an outdoor display of $3 books caught his eye. One was Joza Karas' *Music in Terezín, 1941–1945*, a primer about the musical life in the military fortress north of Prague that the Nazis turned into a concentration camp. One of its two-page stories concerned a Jewish conductor and pianist named Rafael Schächter, who during his three years at the camp organized a volunteer choir of 150 prisoners and taught them to perform Giuseppe Verdi's choral Requiem by memory 16 times. It floored Sidlin, who knows the choral Requiem is difficult to mount under ideal circumstances.

He bought the book, and Schächter's achievement boggled his mind: Sixteen performances in a concentration camp? It was staggering to consider. Who was this man and why did a Jewish conductor turn to a choral requiem of a Catholic mass in the face of the Nazi Final Solution? The mystery occupied the next decade and a half of his life, during his time at the Oregon Symphony in Portland and as a faculty member at

Bret McCabe | PHOTOGRAPH **Max Hirshfeld**

"What kind of people were they? What kind of people were they that they could respond to the hideous nature of the worst of man with the best of man?"

Murry Sidlin

Catholic University. He learned Schächter was deported to Auschwitz and then sent to three other camps before dying on a death march about a month prior to Czech liberation in April 1945. He sought out Schächter's relatives and Terezín survivors who either sang in the choir or heard the work performed. As he began to see this as an act of obdurate resistance, Sidlin was inspired to create *Defiant Requiem*, a concert drama that weaves the story of Schächter and his choir into a performance of Verdi's Requiem. He debuted the piece in 2002, and when, a few years later, he traveled with orchestra and choir to perform the work at Terezín, he was accompanied by a film crew. Director Doug Shultz's ensuing documentary, *Defiant Requiem*, debuted in August as part of the International Documentary Association's DocuWeeks festival. Since then it has played the Reel Music Film Festival in Portland, Oregon; the Vancouver Jewish Film Festival; the St. Louis International Film Festival; the Big Apple Film Festival; the Atlanta Jewish Film Festival; the Jewish Film Festival in San Antonio; and it is scheduled to be broadcast nationally on PBS in April.

It's a story in which every chapter illuminates a sublime display of humanity. Consider the time Schächter and the choir were forced to perform for the Nazis, on June 23, 1944. SS officers escorted an International Red Cross team inspecting Terezín; in the weeks prior to this visit, the Nazis had forced the inmates to make the camp look upbeat and happy. Flowers and gardens were planted. A playground was built for children. A soccer match was staged. Parks that Jews were not allowed to use were beautified. A film crew followed the Red Cross delegation around, and the footage was turned into the propaganda film *Der Führer schenkt den Juden eine Stadt*. Translation: "The Führer gives the Jews a town as a gift."

This visit lasted six hours, and Schächter was ordered to assemble his choir and perform for them. SS officers and other Nazi handlers were in the audience. In the face of this choreographed lie, Schächter and his choir were going to stand up and sing an act of defiance in the face of their oppressors. And then the Red Cross representatives left. That October Schächter was deported to Auschwitz.

Getting to know Schächter, the creative people imprisoned at Terezín, and the role music played in their lives has forever altered Sidlin's relationship to his art. "It was the most profound lesson I have ever received in music, which always leads me back to the damned schools of music that are teaching [music theory's] secondary dominants—and not what music can be, what it must be, how to get there, and what it's all about," he says. "It's the circle that envelops the technical. And it's not how we teach it. I think that to leave kids in practice rooms where the accomplishment is all that matters instead of the meaning behind it, I'm afraid that is not why we signed on as their teachers."

Johns Hopkins Magazine sat down with Sidlin, a 2010 recipient of Johns Hopkins University's Distinguished Alumnus Award, at his Chevy Chase, Maryland, home to talk about what he's learned from people who know music in ways most people never will.

In 2006, you went to Terezín with orchestra, chorus, and film crew and performed *Defiant Requiem*. What was it like to present this piece of music in a place where, for no small number of people, it was quite possibly the last piece of music ever heard?

It was staggering. It was humbling. It was a privilege. And it was heart wrenching. None of which, when you're the conductor of an army of performers, are you allowed to exhibit. We had our final rehearsal just a couple of hours before the performance. Then in my dressing room there were a lot of people, and I just said, "Everybody get out of here. I need a half-hour by myself." So I sat down and looked out, and there was the top of the building that was the little apartment that Rafael Schächter shared with Mr. [Edgar] Krasa, who was in the chorus and at the performance. And so there was no way to disassociate yourself from the reality: This was a place where people were murdered. This was a place where one group of supposedly cultured and civilized human beings decided to annihilate another. And part of that annihilation scheme was to put them in here, and the response of those people was, among other things, 2,400 lectures, 16 performances of the Verdi Requiem, 38 performances of [Czech composer Bedřich Smetana's opera] *The Bartered Bride*, 50 performances of [Czech children's opera] *Brundibár*, and performances of Mendels-

sohn's *Elijah* and [Puccini's opera] *Tosca* and [Mozart's opera] *The Magic Flute*, and so forth. And you sit there and you think, "What kind of people were they? What kind of people were they that they could respond to the hideous nature of the worst of man with the best of man?"

Do you think Nazis in the audience understood what they had just been hit with?

No, I don't. Even though there was a lot of wishful thinking—Can the Red Cross understand? Can they read between the lines?—I think it was not very realistic to think they would have gotten it. What was more important than the Nazis getting it was the Jews doing it. It was so critical for them to stand up and to shake their fists figuratively through the "Dies Irae" [section of the Requiem, corresponding to a liturgical rite in the requiem mass], through everything else. It was so important for them to say to the Nazis in the front row that you simply can't succeed. You may be our captors, but we are free. We are energized, we are valid humans and see through your unspeakable behavior and respond to it with the best of mankind.

How did this journey begin for you? You first came across this story in a book. What came next?

The first thing I did was look for corroborating statements. What I found was essentially the same paragraphs paraphrased in several different sources. [Note: Soon after this he moved to Oregon, where he had become resident conductor of the Oregon Symphony. While there, he was offered a position at Pacific University, a small college outside of Portland.] Pacific University has two Holocaust scholars. Neither is Jewish, and they made a point of telling me that because, they said, everything they read about the Holocaust is fraught with too much emotion. There cannot be any mistakes, they said, there must be no invalidation. So they became coaches for me. I went to them and I said, "I'm striking out."

They taught me how to post on a Holocaust website. [I posted] that I'm looking for either relatives of Rafael Schächter, people who sang in the choir, or people who attended performances. Well, time went on and no response. And then I do get a response from Israel that simply said, "What do you want them for?" That's all. So I came clean and said, "I don't know. I'm a conductor in Portland, Oregon. I came across this and I cannot believe there isn't more to the story." Another 10 days or so pass and nothing. And then, whoever that was must have contacted this woman in Jerusalem who was the niece of Rafael Schächter. Her mother, his sister, was still alive and in Israel. She had been in Terezín for a very short time. The niece writes to me and says, "My mother thinks that my Uncle Rafael may have had a companion in the camp who would have been in the chorus. She thinks his name is Krasa, and I warn you, that's a very common Czech name. She wants to say initial E, and she says she thinks she heard a story that he went to Israel but he may be in the States. He kept talking about Boston." I mean, this was never going to work out.

I called area code 617 and asked for information and asked, "Do you have an E. Krasa in the Boston area?" They said, "I have an Edgar in Newton." So I called the number. [affects a deep voice] "Hello?" I thought, Oh my God. Right accent, right age. "Mr. Krasa, this is the craziest phone call you've ever got. I'm calling from Portland, Oregon. . . . Does the name Rafael Schächter mean anything to you?" After a pause, he says, "Well, I named one of my sons after him." I started to shake a little bit and I was beginning to perspire and I said, "May I assume that you were interned in Terezín?" And he said, "Yes, Rafael was my bunkmate for three years." This was on a Tuesday. I said, "Mr. Krasa, if I came to Boston, could I take you to lunch this Friday?"

So I went to Boston and he picked me up at the hotel. I'm a complete stranger and he puts me in his car and drives to Newton, where his wife greets me like a long-lost relative, and I was there for six hours. I said to him, "I had a kind of bolt-upright epiphany some nights ago that I thought may give me a clue to all this. So at 4 o'clock in the morning I ran down to my studio and took out the Verdi Requiem plus an English translation of the Latin to be certain and I'm just wondering if there isn't a double meaning in *everything*." And he said, "Yes, of course. That was the whole point." I said, "So 'libera me' is 'liberate' and 'day of wrath' is to the Nazis and 'everything will be avenged'—this was all you people singing this to the Nazis?" And he said, "With raised fist."

So that's how it began.

This sign above a gate in the Terezín camp reads, "Work will make you free." Prisoners worked 12 hours a day, says Sidlin. "They're tired, they're sweaty, their clothes are dirty, their hands are dirty, they can't brush their teeth, they can't do the things that just make one feel at least basically civil. They can't—and yet he was making them be that kind of focused human being for a larger purpose."

PHOTOGRAPH BY MARTA TOBOLOVA/SHUTTERSTOCK

How important was it to visit Terezín? There's a difference between reading and hearing about something in the abstract and seeing it with your own eyes.

I know where they rehearsed, I've been there. And when they went into rehearsal at whatever time they had gotten back from work and had some gruel if there was any that day, they would come out and they said it was very common to walk over bodies—people who had, in the meantime, collapsed and died in place. So no matter how much they escaped through the Verdi and how important that was for them to get to know music in a way that most of us will never understand, still they came out and they were immediately brought into a reality.

There was one thing that I would like to share with you. Schächter himself became my teacher in absentia because I began to understand what he did. Krasa told me that [Schächter] was merciless—he used that word many times—in rehearsal. He would pound his fist and say, "Don't take your eyes off me." That was not being a lunatic conductor. It was that he could not allow them to go back into their hunger, into their illness, into the place where they begin to cry for the lost people, to worry, Where are my children? Where is my wife? He could not allow that. The purpose of [the Verdi] was to get past all that and do something bigger and broader and more life affirming. After all, they worked 12, 13 hours a day. They're tired, they're sweaty, their clothes are dirty, their hands are dirty, they can't brush their teeth, they can't do the things that just make one feel at least basically civil. They *can't*—and yet he was making them be that kind of focused human being for a larger purpose.

The other great teacher was a pianist, and she was in the camp. Her name was Edith Steiner-Kraus. I met Edith in Jerusalem, and I had a wonderful conversation with her. It started like this: "My years in the camp were the most wonderful years of my life." She must have used that line before because she smiled and said, "Yes, I know what you're thinking, The old lady is batsy." She said, "Here's what I mean. When I went into the camp, I was 18, 19. My career had just started to take off. I was attracting attention. What did that mean? It meant critiques, contracts, contact with conductors, engagement, re-engagement,

recordings, and all the business of music. I go to Terezín. Every day for those years I played for somebody—for three people, 10 people, 30 people, one person—and I reminded myself why I became a musician. I was free of all that nonsense of the business. I remember Terezín because I know what music can be. I saw that when people came and sat down; when I finished they walked with a little bit stronger step."

So I said to her, "Edith, you're such an urbane musician, tell me: When you heard the chorus of the Verdi Requiem, what did they sound like?" And she gave me one of those penetrating looks that must've lasted all of three seconds but felt like a weekend and she said, "You know, you would've been proud of this chorus in any urban setting, but the superficial nature of that question troubles me terribly." And so I began to—you know the Yiddish word *schvitz*?

To sweat? Yes.

OK, I began to schvitz, but this is not a schvitz in the ninth inning with a no-hitter going. This was like Niagara Falls. She said, "You want to know about all those musicianly things. Did they sing in tune? How about the choral balances? What about the rhythmic precision? Was there good phrasing? Choral color? Was there an understanding of the text? Was there a relationship between the performers and did it get to the audience? All that stuff, as if any of that matters." And then, here's the line, this is what the late nights would call the punch line. She said, "We were so deeply inside the music that we had returned to Verdi's desk." And at that moment I realized with all my wisdom, with all my artistic elocution and elegance and profound performances, I had never even been close.

How has this experience changed your relationship not just to Verdi's Requiem but to understanding music and what it can do?

The Verdi Requiem, next to [Handel's] *Messiah*, must be the most-performed oratorio in the world. Audiences know it and love it. But this gives *context* to it. There's context and psychology to every piece. When you listen to music you're listening to a mind, heart, and vision. You're listening to the experiences of the person for whom common language no longer can serve, so art begins. In this case, here is one of the great works of all time in concert hall compositions. And it was borrowed by people—you know, the Catholics borrowed the Songs of David to construct the mass, so these people are borrowing the mass back. And they've found a way that this work can serve them. I kid you not, from what we know about Verdi, he'd be on bended knee with tears to know that those people—oppressed as they were—reached out for his music. And so what changed me about it is to realize, this is the way to communicate about music—to tell these stories.

You said that Schächter became a teacher for you in absentia. What did you learn about him as a man and, being a conductor, could you talk a bit more about what he did, given this volunteer choir of prisoners committing a piece of music to memory?

One of the major things [for me] was that when instructions were given to Jews who were deported to Terezín of how much they could bring with them, 110 pounds, when he filled up that suitcase, he went to his shelf and he put in a couple of scores. Now, there was no chance in the world at that time that he could know that this was going to be possible. So he selects *The Bartered Bride* because it's the Czech national opera. And then he takes the Verdi Requiem. Like every conductor he probably had shelves end to end of scores and he looks and he reaches for the Verdi Requiem. He makes a choice.

Why Verdi? Because he can't be without it. My guess is that if he could have he would have cut himself open and put this score next to his heart and then fixed himself back up, that's what it meant to him. At night, he could look at it for reassurance. He didn't know what they were up against, but he did know he was being resettled and relocated—that can't be good. That can't be good. They had no idea where they were going or what was up ahead. So he gets there and he's glad he's got it because he's amidst degradation and filth and attitudes that are hideous and inhumanity and all the things, all the adjectives that we can use to describe what loosely is called the Shoah. We have no words. We have *Shoah, Holocaust, genocide*. Does any one of those three words suffice? It's because language was not

meant to go there. But he could open this score up at night and get solace and get reassurance that humans can create this and recreate it and co-create it. This is his Shakespeare.

Could you talk about the difficulty of what he did—16 performances in a concentration camp?

Yes, 16—and there were three choruses. After the first performance, two-thirds of the chorus is deported [to Auschwitz]. With deportations come importations, so he recruits again. Now he's got a third of the chorus from the first time, so it goes a little faster. Then x number of performances, [and members are] sent to Auschwitz again, and now he's left with the final 60. And he doesn't want to do it anymore because he's lost the power of the sound but he was ordered to do it so they gave one hell of a performance and those who sang it said the Verdi was incredible. It was smaller, yes, but it was incredible.

"Springsteen says, 'Empty the tank.' That's what we must do. We must empty the tank every time we go out."
Murry Sidlin

So what does it teach me? It teaches me that every night when you go out to perform there are going to be several different people in that audience. Some are going to hear this work for the first time, and their impression of it forever is going to be what you gave in those few moments. Some are there at enormous sacrifice. They had to go through all kinds of leaps and bounds to get to this concert, and they deserve your utmost. And then there are those who are hearing a performance for the last time. Nobody knows who they are, but they're there. And their last musical event is your performance. You owe a thousand percent. Beethoven said, "From the heart may it go to the heart." That was complete passion. Springsteen says, "Empty the tank." That's what we must do. We must empty the tank every time we go out.

Since I've learned about Schächter I've become a little bit familiar with the number of creative minds who came through Terezín. What did we lose culturally from this intentional extermination of a generation?

We lost the next generation of Czech composers, and that's the line that was from [Bedřich] Smetana and [Antonín] Dvořák through [Leoš] Janáček and [Bohuslav] Martinů into the current, and that would have been [Viktor] Ullmann, [Pavel] Haas, [Hans] Krása, and Gideon Klein. If Gideon Klein had lived, he would have been the Leonard Bernstein of Eastern Europe. There's no question about it. A, he was handsome to beat the band. B, he was a brilliant pianist starting to conduct and already a recognized composer. He had everything. And he was murdered at 25.

So that's the kind of talent that's gone. But it's not only in the musical arts. It's in the visual arts. Peter Kien. Phenomenal man. In addition to being a librettist and a poet, what a painter. Fortunately, in Terezín, in the museum, they have several of his paintings—and he also was not 30 when he was murdered. So these painters, these poets and writers—the professional level of [Terezín] was astonishing. In many ways, it was one of the most vibrant and active artistic centers in occupied Europe because of the number of places the Jews couldn't perform and halls were shut down and so forth.

So what's next for you? You're bringing *Defiant Requiem* to Peabody in the spring.

Yes, we're going to perform it at Peabody [April 23 and 24, 2013] and then a few nights later we'll do it at Avery Fisher Hall in New York. One of the things that Schächter said to his chorus many times was that all of this is a rehearsal for when we sing Verdi in Prague in a beautiful concert hall with a grand orchestra in freedom. OK, so we've done it on Terezín grounds three times, but we have not done it in Prague. And now Cardinal [Dominik] Duka of the St. Vitus Cathedral, which was the site and setting of the Velvet Revolution, has asked us to come to the cathedral to do *Defiant Requiem* this June.

Congratulations. That's very cool.

Yes. He's that kind of guy. He's a beautiful man. Someone told him about [*Defiant Requiem*], and his immediate reaction was, "I want to talk to this person." He was here at the Czech Embassy maybe a year or so ago, and he gave me the Medal of St. Agnes because of my work in illuminating the legacy of Terezín, which moves him very deeply. That's when he said to me, "Let's talk about bringing this to Prague." I said, "From your lips to God's ears." And he said, "That can be arranged."

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

FIND IT ALL.

HUB

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What we're thinking now.

Previous studies suggested that HA has a major role in host-[illegible] of influenza A viruses[1, 2, 3]. The H[illegible] preferentially recognizes sialic acid linked to galactose by α2,6-linkages (Siaα2,6Gal), whereas the HA of avian isolates preferentially recognizes sialic acid linked to galactose by α2,3-linkages (Sia[illegible] small numbers of viruses isolated from humans sh[illegible] receptors, a property conferred by sev[illegible] of the H5N1 viruses tested trans[illegible] although, while our paper was under review, one study[14] reported that a virus with a mutant H5 HA and a [illegible] of a human virus in the H5N1 virus background caused respiratory droplet transmission in one of two contact ferrets.

To identify [illegible] mutations in avian H5 [illegible] that confer human-type receptor-binding preferen[illegible] we introduced random mutations into [illegible] (H3 numbering), which includes the receptor-binding pocket) of A/Vietnam/1203/2004 (Supplementary Fig. 1). Although this virus was isolated from a human, its HA retains avian-type receptor-bindi[illegible]ties[6–15]. We also replaced the [illegible] HA cleavage sequence with a non-virulent-type cleavage sequence, allowing us to perform studies in biosa[illegible]ntainment (http[illegible]urces/publications/influenza/influ[illegible]MD2003_5.p[illegible]). Mutated polymerase chain reaction (PCR) [illegible] were cloned into RNA polymerase I plasmids[16] containing the [illegible] HA complementary DNA, which resulted in Escherichia coli libraries repre-

Flu Scare

Publishing scientific research might help prevent the next pandemic, but there is legitimate fear that critical information could fall into the wrong hands. A moratorium on flu research is giving scientists and policymakers time to hash it out. But how long can it go on?

Mat Edelson

ILLUSTRATION
Paul Sahre

Popular culture has long fixated on the microbe that could lay waste to humankind. Just consider *The Andromeda Strain*, *Contagion*, even Stephen King's ode to a fictitious superbug he cheekily named Captain Trips. Consider our neurosis justified. Bubonic plague, tuberculosis, the Spanish flu of 1918, AIDS—all of them claimed millions of lives before running their courses or being controlled, to varying degrees, medically.

Of the above quartet of misery, experts believe the one most poised for a comeback is a highly contagious, potent form of influenza, which actually refers to a broad array of viruses that initially attack the lungs through inhalation. Many flu strains are related to the 1918 version, links that were only discovered after extensive research,

including genetic recreation of the 1918 pathogen from frozen and preserved tissue samples beginning in the late 1990s.

It was the kind of research that gave insight into how flu strains could mutate so quickly. (One theory behind the 1918 version's sudden demise after wreaking so much devastation was that it mutated to a nonlethal form.) The same branch of research concluded in 2005 that the 1918 flu started in birds before passing to humans. Parsing this animal-human interface could provide clues to stopping the next potential superflu, which already has a name: H5N1, also known as avian flu or bird flu.

Given its lethality, and the chance it could turn into something far more transmissible, one might expect H5N1 research to be exploding.

This potential killer also has a number: 59 percent. According to the World Health Organization, nearly three-fifths of the people who contracted H5N1 since 2003 *died* from the virus, which was first reported in humans in Hong Kong in 1997 before a more serious outbreak occurred in Southeast Asia between 2003 and 2004. (It has since spread to Africa and Europe.) Some researchers argue that those mortality numbers are exaggerated because WHO only counts cases in which victims are sick enough to go to the hospital for treatment. Still, compare that to the worldwide mortality rate of the 1918 pandemic; it may have killed roughly 50 million people, but that was only 10 percent of the number of people infected, according to a 2006 estimate.

H5N1's saving grace—and the only reason we're not running around masked up in public right now—is that the strain doesn't jump from birds to humans, or from humans to humans, easily. There have been just over 600 cases (and 359 deaths) since 2003. But given its lethality, and the chance it could turn into something far more transmissible, one might expect H5N1 research to be exploding, with labs parsing the virus's molecular components to understand how it spreads between animals and potentially to humans, and hoping to discover a vaccine that could head off a pandemic.

Instead, the research has come to a voluntary standstill. Thirty-nine of the world's top flu researchers issued a joint statement in the January 20, 2012, issue of *Science* announcing they were temporarily suspending all work involving "highly pathogenic . . . H5N1 viruses leading to the generation of viruses that are more transmissible in animals," a move applauded and supported by the U.S. government's top research funders. "Congratulations on the voluntary moratorium," Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, told hundreds of flu researchers at their July Centers of Excellence for Influenza Research and Surveillance conference, before letting them know the piggy bank was still shut. "But NIAID, NIH, and HHS [Health and Human Services] cannot go along with lifting the moratorium on studies . . . related to pathogenesis or transmission of H5N1 that is performed with U.S. government funds."

At its root, what has frozen the players in their tracks is the same emotion that surrounds the specter of a pandemic: fear. Not of discovery. Nor knowledge. But rather the potential for nefarious use of information gained in such pursuits.

Science has been here before. The question becomes, Have we learned from the past? Johns Hopkins researcher Ruth Faden thinks we have, and that building a consensus among both the scientific and national security communities is the key to moving forward.

Since the days of Los Alamos, J. Robert Oppenheimer, and the race to build the bomb, researchers have been forced to confront the so-called dual use research of concern conundrum: that their quest for knowledge could yield results that might end up in the hands of unscrupulous parties or enemies of the state. During the latter stages of World War II, the time line appeared so compressed, the opponent's aggression and intent so obvious, that our domestic national security concerns demanded a full-scale effort to unlock the secrets of the nuclear bomb.

If the Los Alamos scientists had qualms about creating atomic weapons that might someday be turned on their makers, they kept such concerns to themselves—or were too caught up in the rush of discovery to overtly admit them—until it was too late. As Oppenheimer noted when the first Trinity bomb test turned the sky to fire, "A few [researchers] laughed, a few cried." Many broke into spontaneous dance. One, a Harvard physi-

cist, sardonically summed up the mood when he shook Oppenheimer's hand and said, with no irony, "Now we're all sons of bitches."

At its heart, the dual-use question generally comes down to opposing agendas: national security interests wanting to tightly control information versus scientists who believe investigation and achievement are based upon open dissemination, publication, and replication of results. While the two sides can be united, as they were in World War II, often there is conflict. This is especially true regarding emerging science and technologies. A particularly gray area has been biotechnology. The fear of bioweapons blasted onto the front page in 1995, when sarin nerve gas attacks killed 13 people in the Tokyo subway system. Those concerns escalated in the month after 9/11, when anthrax-laced letters caused five deaths and infected nearly two dozen people. Talk of genetically manipulated "weaponized" anthrax began filling the airwaves, and it didn't take long for both defense analysts and scientists to wonder what other pathogens could be manipulated.

The conversation quickly turned to research on common infectious diseases, the type of work that has saved lives by the millions. Smallpox, polio, TB, measles—each has been either eradicated or greatly controlled, especially in developed countries, because research into its cause, prevention, and potential cure continued unabated.

So, too, is the case with the flu. Research has shown that most modern-day strains of the flu are slight variations on those previously experienced by the public, so a good deal of the human population already has immunity. This, along with annual flu shots for common seasonal strains, limits yearly cases of influenza. But with avian flu and its relative lack of human exposure lurking in the background for the past decade, H5N1 researchers faced a particular dual-use challenge. They felt compelled to determine how the flu could move from animals to humans, mainly by manipulating different genes within H5N1's gene sequence. The idea was to see if a mutated H5N1 form that transmitted well in a lab setting between animals actually resembled something already occurring in nature. If that were the case, public health officials could test birds for the transmissible mutations and attempt to stop a pandemic before the virus entered the human population—for example, by killing off infected farm-raised poultry before the disease could spread to human workers.

Yet the very nature of such experiments raised security implications—so much so that a nearly decade-old government committee actually stepped in for the first time last December to voice concerns that effectively halted publication of certain H5N1 research. When virologists Ron Fouchier of the Netherlands and Yoshihiro Kawaoka of the University of Wisconsin independently discovered they could inoculate ferrets—which sneeze like humans—with mutated forms of H5N1 and create a potentially airborne transmissible form of the virus, the U.S. National Science Advisory Board for Biosecurity voiced objections. In an unprecedented move, the NSABB, an independent body of science and biosecurity experts that consults with federal agencies including the Department of Health and Human Services, strongly urged *Science* and *Nature* to delay publication of the papers. The NSABB wanted the authors to alter their respective papers' language to "explain better the goals and potential public health benefits of the research," and notably, exclude the methodology sections that are vital for replication of science. HHS agreed with the suggestions, with an NSABB spokesperson noting, "The recommendations were that the papers not be published in full, that the papers be modified and the results be redacted so that someone with malevolent intent could not exactly replicate the results."

There was plenty of potential fear of bioterrorism surrounding Fouchier's research, much of it generated by the researcher himself. In November 2011, he told *Science* that the mutated form of H5N1 that he injected into ferrets was "probably one of the most dangerous viruses you can make," and NSABB members agreed. Debate erupted throughout the scientific and national security communities about whether the experiments should have been conducted in the first place. In the midst of the tumult, Fouchier and Kawaoka, backed by 37 of their colleagues, gave themselves the equivalent of a time-out: the research moratorium they agreed to in January 2012.

The fear of bioweapons blasted onto the front page in 1995, when sarin nerve gas attacks killed 13 people in the Tokyo subway system.

It didn't take long for Johns Hopkins' Ruth Faden to find herself in the middle of the fray. The public first heard from Faden on the subject on NPR's nationally syndicated *Diane Rehm Show* last December, where she joined Anthony Fauci, *Science* Editor-in-Chief Bruce Alberts, and NSABB member and infectious disease policy expert Michael Osterholm. A bioethicist and head of the Johns Hopkins Berman Institute of Bioethics, Faden deftly laid out some of the perspectives of the scientific and defense communities. "We are not a zero-risk culture," she told Rehm. "We have to assume some level of risk when we're pursuing something of great [scientific] importance. The question is, Do we have the mechanisms in place to assure that we are properly assessing the benefits and risk and that we have the plans to manage the risk?"

For Faden, looking at the potential effect of an experiment *before* the first gene is spliced is vital for the proper handling of dual-use research of concern. That wasn't the case with the Fouchier and Kawaoka studies. In an editorial published in *Science* just weeks after the NPR appearance, Faden and Ruth Karron, director of the Bloomberg School of Public Health's Center for Immunization Research and the Johns Hopkins Vaccine Initiative, took the NSABB to task for not being able to look at controversial research when it was in the formative stages. They also noted that, in the case of Fouchier and Kawaoka, the NSABB did not accompany its recommendations for holding back full details of the scientists' works with a proposal as to who in the scientific and public health communities should have total access to the science to judge its merits and concerns.

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By waiting until the ferrets were sneezing across their cages, Faden and Karron essentially argued, the NSABB was put in the difficult reactive position of having to quash information and media rumors of a "superflu" just a security breach away from becoming a terrorist weapon.

"This question [of what to do with information in papers the NSABB finds concerning] should not have caught the NSABB or NIH by surprise," the authors wrote in *Science*. "According to the chair of the NSABB, that committee was not given the job of developing a system for distributing sensitive information. But if that is the case, then this remit should have been given to some other identified entity when the NSABB was established."

If the authors sound annoyed, their frustration is understandable. Faden, one of the most respected bioethicists in the country, was part of the 2001 National Academy of Sciences committee called in the wake of the anthrax attacks. The committee's charge was to balance dual-use research concerns regarding possible bioterrorism with continuing bioscience advancement.

The committee issued its Fink Report (named after Massachusetts Institute of Technology genetics professor Gerald R. Fink, who chaired the report) in 2004, published under the ominous title *Biotechnology Research in an Age of Terrorism.* The report recommended establishment of the NSABB and also called for numerous other steps, including "harmonized international oversight."

"One of the things we had to acknowledge was that even *if* the U.S. had a perfect system—and right now we have a nonsystem—but even if it were perfect it really would not make for a secure world if other countries didn't have systems and if the systems didn't work together," says Faden. "This is about collective global action: One of the roles of the NSABB we envisioned would be as the lead entity on the U.S. side to be working with counterparts in other countries to create a global governing structure at the intersection of science and biodefense."

Such is not the case, with Faden and Karron noting in their essay that "in the eight years since [the Fink Report], no coordinated system for oversight of dual-use research, either national or international, has been implemented."

Faden is careful not to take sides in either the publishing or investigators' moratorium—as an ethicist without access to the NSABB's inner workings, she says, "I don't have the expertise on my own to make that call. This is where science and technical experts in this area have to be thinking this through with national security people to make the judgment." However, she notes that scientists have used moratoriums profitably in the past, particularly during the

Estimated global fatalities from flu pandemics

development of the pioneering use of recombinant DNA. In the early 1970s, researchers began introducing DNA from different gene sources—viruses, plants, or bacteria—into host cells to see what grew. Lack of institutional safeguards at the time potentially exposed lab workers—and perhaps the general public, if a genetically modified virus escaped the lab—to unknown hazards. The concerns grew great enough that a National Academy of Sciences committee in 1974 called for a halt to all recombinant DNA research until a comprehensive framework for safely conducting such experiments could be established. This occurred in the landmark Asilomar Conference seven months later, and the moratorium was lifted.

The success of Asilomar isn't lost on flu investigators who agree with the current temporary work stoppage. Andrew Pekosz, an associate professor of molecular biology and immunology in the Bloomberg School, who was not a signatory to the moratorium because his flu lab does not work with H5N1, nonetheless supports the move as a way of restoring public confidence in both the researchers and the research. "When [Fouchier's and Kawaoka's] research came out, there were a lot of people who didn't realize this research was being done under strict containment conditions. That unknown contributes to fear. I think this speaks to the fact that we as scientists need to do a better job of communicating not only what we are doing but how we're doing it. These issues of safety and biocontainment are important to us.

"That's why the moratorium was a good idea," Pekosz continues. "We need to send the message out to the general public that there are issues people want answers about, and rather than just going on like we are, let's all take a break and discuss this and not have pressure of continuing the research and having somebody censor the material before it's released."

Interestingly, the research moratorium may have played a role in resolving the NSABB's publishing dilemma. At the time when *Science* and *Nature* announced they were putting a temporary hold on the Fouchier and Kawaoka papers, their move created deep divides, including some surprising responses from notorious free-speech advocates. "We nearly always champion unfettered scientific research and open publication of the results," wrote the *New York Times* Editorial Board. "[But] in this case it looks like the research should never have been undertaken because the potential harm [from accidental or intentional release of the virus] is catastrophic and the potential benefits from studying the virus so speculative."

Former Johns Hopkins infectious disease expert Thomas Inglesby, now at University of Pittsburgh Medical Center, bluntly agreed. He told CNN that, in dealing with the mutated virus, "we are playing with fire. . . . It could endanger the lives of hundreds of millions of persons."

Mount Sinai microbiologist Peter Palese offered a countering view, worth noting since his lab helped reconstruct the 1918 influenza

virus in 2005 with NSABB's approval. "During our discussions with NSABB, we explained the importance of bringing such a deadly pathogen back to life," Palese wrote in *Nature*. "Although these experiments may seem dangerously foolhardy, they are actually the exact opposite. They gave us the opportunity to make the world safer, allowing us to learn what makes the virus dangerous and how it can be disabled." Palese claimed publishing the work allowed other researchers to show that the 1918 flu, should it return, can be combated using "seasonal flu vaccines [and] common flu drugs"— vital information for public health workers and emergency planning.

"This is about recognizing and ensuring the public's continued trust in science."

Ruth Faden

Both of the controversial flu research papers were eventually published. Upon further review, the NSABB cleared Kawaoka's paper and it appeared in full in the May issue of *Nature*. NSABB recommended "further scientific clarification" of the Fouchier research, and it appeared, with WHO and NIH support, in the June issue of *Science*, with a clarified methodology section.

For their part, *Science*'s editors, in a magazine issue completely devoted to H5N1, reflected Faden and Karron's concerns that the NSABB needed international and domestic strengthening. The editors added that they agreed with the NSABB "mechanism," calling the eight-month delay in publishing "a 'stress test' of the systems that had been established to enable the biological sciences to deal with 'dual-use research of concern.'"

While the publishing moratorium has ended, the research moratorium goes on. Originally scheduled for 60 days, it is now on an indefinite extension. NIAID's Anthony Fauci has announced a conference, scheduled for this month, to bring together scientists, biosafety experts, NSABB personnel, and the public to further discuss the risks and rewards of continued H5N1 research. International experts have also been invited, with their cooperation absolutely essential to future research: Indonesian scientists have been involved in an ongoing quarrel over the withholding of vital local strains of H5N1 from global researchers if they are not party to data obtained from those strains.

At this point, some scientists appreciate that their colleagues are willing to tread lightly for the time being. The September/October issue of *mBio*, the journal of the American Society for Microbiology, was dedicated to the topic, with an editorial calling the research pause "a historic moment for science." One contributor, Stanford infectious disease expert Stanley Falkow, supported continuing the moratorium, arguing that it should have started "once the first ferret sneezed." He noted that cloning of certain genes was held up for several years while safety and other concerns were addressed and suggested that the same should hold true of H5N1 research.

On the other hand, in that same issue, Fouchier and Kawaoka, along with moratorium signatory Adolfo García-Sastre, called for the immediate resumption of H5N1 research: "Now we know it is possible that these viruses could adapt to mammals, but without more data, we cannot fully assess the risk or implement appropriate containment measures," they wrote. "To contribute meaningfully to pandemic preparedness, we need to conduct more experiments . . . in a timely manner."

Perhaps there's an awareness that, going forward, what is needed is both standards of practice and, most importantly, transparency of process for the real shareholders in this research. As Ruth Faden notes, "This is about recognizing and ensuring the public's continued trust in science. Being a scientist is an awesome privilege, and scientists have an individual moral obligation to reduce the likelihood that their work will bring about bad consequences for the world."

And getting there, says Faden, means opening dual-use research concerns to all and sharing the burden for its proper application among both scientists and nonscientists. Karron agrees that building consensus is key. "My thought is in this day and age it's important to broadly engage individuals outside your area of expertise when these questions arise," Karron says. "[NIAID's] Tony Fauci said, 'You must engage civil society.' We can learn from each other. It is important to listen, to hear about potential opportunities or threats you may not have considered."

But someone else has.

Mat Edelson is a freelance writer based in Baltimore.

ABUNDANT THINKING ABOUT SCARCITY

by Mat Edelson

If a pandemic were to strike Baltimore, how would hospitals and public health officials fairly allocate scarce resources such as vaccines and ventilators? This isn't a completely hypothetical inquiry: One need only look back to 2009. H1N1, "swine" flu, had spread so quickly that President Obama declared a nationwide state of emergency, yet barely half of the expected 40 million doses of vaccine had shipped from manufacturers. That stressed the health care system up and down the line; at Johns Hopkins people showed up seeking the vaccine only to be told a triage system had been put in place placing pregnant women, toddlers, and health care workers in high-risk situations, and people with compromised immunity at the top of the list.

Fortunately H1N1 didn't become so virulent and potent as to cause a panic or overwhelm the hospital and security. But it did leave university faculty such as Ruth Faden thinking about the next inevitable pandemic and how, by doing serious advance work, the public could have increased confidence in who would get immediate care—and who would have to wait.

"[The H1N1] shortage left us with the clear realization that, rather than make difficult decisions under intense pressure," says Faden, "we should be doing that kind of planning work now, when we have time to consult with the people who would be affected by whatever policies we adopted. We needed to get the community's perspective on how they think difficult ethical issues should be handled."

Faden and colleague Lee Daugherty, a pulmonologist, have focused on the availability of ventilators, which are critical for flu victims who have gone into respiratory distress. There are just over 60,000 full-feature ventilators available for a nationwide crisis, far too few "by orders of magnitude," says Daugherty.

In a collaboration led by Daugherty, researchers from the Berman Institute of Bioethics, the School of Medicine's Division of Pulmonary and Critical Care Medicine, the Program for Deliberative Democracy at Carnegie Mellon, and others began crafting key ethical concepts for public consumption and debate. These include the intriguing "Fair Innings" principle for allocating health resources. Taken originally from baseball's ancestor sport, cricket, the metaphor is that everyone deserves a certain number of turns at bat in life, and if you're in the bottom of your proverbial ninth inning while someone else is just getting their first ups, well, as a society, we owe them a shot at quite a few more at bats.

All told, seven community meetings throughout Maryland are set to discuss the ethics of ventilator allocation. Two have already taken place, and what's impressed Daugherty and Faden is the ability of people from all walks of life, regardless of their educational background, to grasp complicated moral principles and ask informed, insightful questions that further the debate. Faden sees this public give-and-take with decision makers as being far more effective—and ultimately yielding far more meaningful dialogue—than "if we just commissioned a telephone poll that called 1,000 Marylanders and asked, 'If there aren't enough ventilators to go around in a pandemic, which of the following ethical principles would you choose to decide who gets one?' How much confidence would you have that these people knew anything about the choice they made? Why would they have even given it any thought previous to the question?"

Faden's hope, which really is a deep faith in the human condition, is that these kinds of planning forums are the best way to keep pandemics manageable given the reality of scarce resources. The difference, in that heat of the moment, between panic and restraint could well be razor-thin, "so we need to think ahead and in consultation with the public about principles that make good ethical sense to everybody whose lives could be saved . . . or lost."


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MISTER NICE GUY

As a cartoonist, Tim Kreider seemed to loathe almost everybody. His essays tell a different story.

It is simplistic but not entirely inaccurate to say that essayist Tim Kreider drank his way through his 20s, drew his way through his 30s, and has been writing his way through his 40s. As a drinker in his 20s he was, by his own testimony, depressed, though by his friends' testimony still fun to be around. As a misanthropic cartoonist in his 30s he was an adept caricaturist whose drawings were frequently obscene and savagely funny, unless you count yourself among the right wing of the Republican Party, in which case you probably regard them as filthy, blasphemous, treasonous, and worth collecting just in case the day comes when he can be prosecuted.

As a writer, however, Kreider, A&S '88, reveals himself to be well-read, smart, and a fundamentally decent

Dale Keiger | ILLUSTRATION Timothy Kreider

and kind man possessed of rare candor, a pitiless sense of his own shortcomings, and a gift for friendship that makes you wish your number were stored in his cellphone. This summer, Kreider published *We Learn Nothing*, a collection of 14 essays the author describes as mostly thoughts about friendship and loss. There is indeed much about friends he still sees and friends who have drifted out of touch or cut him off, eccentric friends, and friends who were flat-out nuts. There is also an account of the author trying to feel some empathy for people he despises at a Tea Party rally, his discovery in his 40s of two half-sisters he did not know he had, and a lovely, fond remembrance of a deceased friend who was beloved for the elaborate lies he told. There are rueful tales of Kreider's hopeless love life; a tough and unsparing account of an uncle who died in prison; and yet another version of what he describes as the story he cannot escape telling and retelling, about the time he was nearly murdered in Crete. The book provides substantial evidence that while Kreider is a fine cartoonist, he is a superb essayist, a funny and fluent storyteller who wears his cultural literacy lightly, capable of references, in the same paragraph, to Friedrich Nietzsche, The Dude from *The Big Lebowski*, and writer Rebecca Solnit, all without affectation. To read "The Creature Walks Among Us," "The Czar's Daughter," "Escape from Pony Island," or "An Insult to the Brain" is to appreciate a mordant but affectionate observer of life's rich pageant, and a craftsman who almost never puts a word wrong.

For example, here he is on the sudden recognition of falling in love: "Someone shows you the rabbit's foot she just bought, explaining, 'It was the last green one,' or simply reaches out and takes your lapel to steady herself as the subway decelerates into the station, and you realize: *Uh-oh*." On political intolerance: "One reason we rush so quickly to the vulgar satisfactions of judgment, and love to revel in our righteous outrage, is that it spares us from the impotent pain of empathy, and the harder, messier work of understanding." On embarrassment, derived from observing a man with a very bad toupee: "Each of us has a Soul Toupee. The Soul Toupee is that thing about ourselves we are most deeply embarrassed by and like to think we have cunningly concealed from the world but which is, in fact, pitifully obvious to everybody who knows us. Contemplating one's own Soul Toupee is not an exercise for the fainthearted." On friendship: "This is one of the things we rely on our friends for: to think better of us than we think of ourselves. It makes us feel better, but it also makes us be better; we try to be the person they believe we are."

Kreider splits time between an apartment in New York and a cabin in Maryland that he often calls the Undisclosed Location. Off a back path off a back road, the cabin is hard to find even after he has disclosed its location. Formerly used by his family as a vacation house, it is a ramshackle A-frame that as a habitable structure may be approaching its expiration date. Kreider shares it with stacks of books, an increasingly fitful well pump, and his 18-year-old feline companion, who is formally known as The Quetzal but is more often called simply "the cat" or, in deference to her age, "Mrs. Cat." He has been known to rent goats to keep the weeds surrounding the cabin in check. Much of *We Learn Nothing* was written here.

He says he's never done an honest day's work in his life. That's not true, but it is true that rather than pursue a writing career, he pretty much sat back and let a writing career come to him. For more than a decade, he earned a few thousand dollars a year as a cartoonist—emphasis on *few*—and was going nowhere professionally, supported year after year by money from his parents, living in friends' apartments when the weather turned too cold for comfort in the drafty Undisclosed Location. He wrote brief essays to accompany the drawings in his three cartoon collections published by Fantagraphics Books (*The Pain: When Will It End?*, *Why Do They Kill Me?*, and *Twilight of the Assholes*), plus the occasional piece of detailed film criticism (Kreider is a film buff), but he did not think of himself as a writer. Then, in 2009, the *New York Times* started a blog called *Proof*, devoted to writers musing on the consumption of alcohol, something Kreider knew. He sent an unsolicited piece that the *Times* titled "Time and the Bottle," about his extended youthful dissipation and the temperance he had eased into as he grew older: "I don't drink like that anymore. My

old drinking buddies fell victim to the usual tragedies: careers, marriage, mortgages, children. As my metabolism started to slow down the fun-to-hangover ratio became increasingly unfavorable. I was scandalized to learn that alcohol is a depressant. And I don't miss passing out sitting up with a drink in my hand, or having to be told how much fun I had, or feeling enervated and wretched for days. Being clearheaded is such a peculiar novelty that it's almost like being on some subtle, intriguing new drug."

A literary agent named Meg Thompson read the piece. "I too was getting a little bit older and drinking was becoming not as fun, or rather a little more painful the next day," she recalls. "The way he articulated that, and that sort of state of arrested development, I thought it was beautifully put. I just sort of knew he was a star the minute I read that piece." She got in touch with him—"We met for drinks, of course"—and suggested he put together a proposal for a book of essays. He did, Simon & Schuster liked it for its Free Press imprint, and one day he found himself in New York signing an author's contract, which he describes as one of his life's better moments.

The adult portion of that life, in Kreider's telling, has included a lot of fun but not as much happiness. His childhood sounds sunnier. He grew up in Maryland, first in Baltimore County and then on a 70-acre farm near Churchville in Harford County, as the adopted son of Sidney and Mildred Kreider. Sidney was a physician who for a time was chief of staff health at Johns Hopkins Hospital; Mildred taught nursing at the University of Maryland. "He was an interesting kid," says his younger sister, Mary, who was also adopted and now is a physician in Philadelphia. "He always had a fantastic imagination. He and I would play these elaborate make-believe games together which were his creation—I was always along for the ride." One of those creations was Rabbit Country, an imaginary world populated by superheroes and villains and the evil Skeleton Brothers. When the family moved to the farm, Rabbit Country moved to the barn, where Kreider and his sister played out elaborate adventures that tended to involve saving an imperiled universe. "He always had these fantastic Halloween costumes that involved fake blood," she remembers. She also recalls the time he took a pen and secretly put two red dots on the neck of her Raggedy Ann doll—mark of the vampire.

Kreider recalls that he liked to sketch comic book figures, sometimes inventing his own with the combined features of various characters—for example, Captain America, Pruneface, and Satan in one sketchbook mashup. In middle school, he and a friend would amuse each other by competing to draw the most hideous faces they could imagine. After *Star Wars* appeared in 1976, he devoted himself to elaborate, detailed renderings of space battles. His dad nudged him into summer art classes at the Maryland Institute College of Art, and after watching him use the family movie camera to make little animated films, his parents bought a more sophisticated Bell & Howell Super 8 with single-frame capability that was better suited to animation. In high school, he used the camera to make short films with his buddies. "These were not good movies," he recalls. "They were much influenced by the humor of Pink Panther films—detective films about bumbling detectives—and I remember we did a slapstick parody of the duel between Hector and Achilles. That was for English class credit, and it got us out of a lot of classes. My dorky friends and I drove around filming ourselves in dorky costumes. That's what I did instead of dating girls. My parents were really good about not expecting me to turn out to be anybody in particular but recognizing my aptitudes and encouraging those. They could tell this was the stuff I was interested in and were very open-minded and kind about it. Most artists are not so lucky. They get the stern patriarchal talking to about how you need a real job."

When he was 14, young Tim drew up a list, a projected time line of his future life. Age 15 through 18, he planned to publish his first book and start selling paintings. Age 19, enroll at Johns Hopkins. Six years later, launch a science fiction saga by writing and illustrating a book he called *The Fields of Truniei*. Age 29: "Get thrown into a sanatarium." Of that one, Kreider says, "I think that was a ploy. I was going to get thrown into an asylum and then write about it. That was the plan. Not yet accomplished, though there's always time." The life list includes purchase of a home

"Each of us has a Soul Toupee. The Soul Toupee is that thing about ourselves we are most deeply embarrassed by and like to think we have cunningly concealed from the world but which is, in fact, pitifully obvious to everybody who knows us."

Tim Kreider

in Montana, the writing of numerous books, a run for the U.S. presidency, and finally, at 94, "Die of natural causes in sleep."

By the time he finished high school, Kreider had that plan on paper but not much else in the way of direction. What he most wanted was to be left alone to draw, write stories, and listen to music. Until the last minute, the only decision about college he could make was that he wanted to study writing. "I just did not want to deal with the hassle and decision of choosing a college," he says. "I still remember that awful period of my life when my parents would say, 'Did you get a chance to look at those college brochures yet?'" He'd already taken writing classes at Johns Hopkins as part of the Center for Talented Youth, so he applied there and was admitted. "I don't know what it's like now, but Hopkins in the '80s seemed like a very tense and joyless place. There were a lot of people there who were premed or prelaw because their parents had decided that's what they were going to do and they weren't the kind of people to whom it had ever occurred to second-guess their parents' ambitions for them. There were people who I would genuinely want to be my primary care physician when they finally got through med school, they were good people, but Hopkins was very much a sink-or-swim kind of place. Nobody was taking you under their wing." He studied in the Writing Seminars with John Barth, Mark Crispin Miller, and Jim Boylan, who is now Jennifer Boylan (Kreider wrote a searching and very funny essay for *We Learn Nothing* about accompanying Boylan to Wisconsin for her gender reassignment surgery). "For decorum's sake we had to pretend that we worked as hard as everyone else, and we certainly did not," Kreider says. "I was not a good student. I was a goof-off. They weren't optimal learning years for me, or at least not optimal scholarship years, let's say. But I did make friends there, and some of them are still my best friends."

"The guy who drew all those cartoons often seems to me now like my younger, drunker, unhappier, more hilarious brother."
Tim Kreider

After he graduated in 1988—thanks to an assortment of college credits he'd accumulated in high school, the goof-off graduated from Johns Hopkins in three years—Kreider worked a few years for Maryland Clean Water Action and the Center for Talented Youth and tried to write fiction. He also drew comics. He was getting nowhere with his writing—"I was basically never any good at fiction"—when the Baltimore alternative newspaper *City Paper* began buying his comics and eventually signed him up as a political cartoonist at wages of $15 per week. "I thought, OK, I guess I'm a cartoonist, because like most people, I keep doing the thing I get positive reinforcement for, no matter how meager that reinforcement might be. My earnings plateaued at $20 a week. But when you're young, just getting published and having an audience means so much to you, you'll work for $15, happily."

When he talks about the decade after Johns Hopkins, "happily" doesn't appear much in his stories. "The 20s aren't a great decade for most people. They were pretty unhappy years for me." He wrote short stories that no one wanted. He flirted with graduate school but can't remember now if he ever applied. He read a lot of Nietzsche, "which is a very 20s-guy thing to read." He went to Europe and nearly got himself killed in Crete, creating that story he'll be telling the rest of his life. During this time his parents subsidized him—he would not approach financial self-sufficiency until a few years ago when he signed his book contract—and let him live for free in the A-frame. He loved a series of women without finding a partner; some of these affairs were not exactly healthy. (He wrote in *We Learn Nothing*, "There's a fine line between the bold romantic gesture and stalking. . . . Often you don't know whether you're the hero of a romantic comedy or the villain on a Lifetime special until the restraining order arrives.") In 1991, his father died at age 56 from colon cancer, depressing Kreider more than he realized at the time. And he was drinking, apparently quite a lot. He figures he came through the inebrious years unscathed but for the squandered time, and despite the day he and a friend were drinking on the roof of a four-story Baltimore row house and impulsively chased a bottle that was rolling down the pitch: "We were like, 'Whew! Almost lost the Jägermeister!' It didn't occur to me until years later to be relieved that I hadn't fallen to my stupid death."

Though he made no money at it, cartooning for him was important. "Having a thing I could tell people I was—being able to say, 'I'm a cartoonist'—meant a lot to me." For a while, the target of his drawings was mostly the absurdity of men's lives, including his own. Then George W.

Bush became president and, appalled by the administration, Kreider had his subject for the next eight years. Looking back at that time in one of his essays, Kreider writes, "I was professionally furious every week for eight years." Boyd White, a senior program manager at the Center for Talented Youth and a longtime friend, says, "Tim would acknowledge that while he was drawing cartoons he spent a lot of that time drinking and being depressed, and a lot of time being very angry, and you can't spend your entire life that way. I think he reached that point where you realize staying that angry is counterproductive and you can't spend all your time drinking and not feel the cost of that."

In 2009, the primary subject of Kreider's political cartooning left office. Fortunately for the cartoonist, later that year he began to find a market for his writing through the *New York Times*, not necessarily the place you'd expect to embrace someone whose last book was titled *Twilight of the Assholes*. The 45-year-old essayist can sound wistful about the dirty-minded cartoonist he used to be. He told the writer Noah Brand, "The guy who drew all those cartoons often seems to me now like my younger, drunker, unhappier, more hilarious brother." But his present sober, more responsible life has its merits. Comparing his current state of affairs to that list he made as a teenager, he says, "My 14-year-old self would be ecstatic. My 45-year-old self is pretty happy, too."

Though he does find himself unexpectedly and alarmingly busy these days, what with having one book to promote and another book to write and editors calling to request magazine pieces. Kreider lives within the tension that comes from being a loner who loves and values friendship, and an ambitious artist who often begrudges ambition's demands. He wants readers and book contracts and the opportunity to finally make some money, but prefers an empty day planner. Actually, no day planner. He attracted a good bit of attention last June with an essay in the *Times* titled "The 'Busy' Trap," in which he wrote: "My own resolute idleness has mostly been a luxury rather than a virtue, but I did make a conscious decision, a long time ago, to choose time over money, since I've always understood that the best investment of my limited time on earth was to spend it with people I love. I suppose it's possible I'll lie on my deathbed regretting that I didn't work harder and say everything I had to say, but I think what I'll really wish is that I could have one more beer with Chris, another long talk with Megan, one last good hard laugh with Boyd. Life is too short to be busy."

Kreider is not sure yet what the next book will be about. "I had 40 years of material to put in book one, and I fear I've used the best stuff and now I got nothing," he says. "But maybe I'm mistaken in imagining that the way I came up with the first book has to be the way that I come up with the second. You don't necessarily have to get stabbed in the throat every time." He's thinking

the second book may have more to do with women and the "difficulty of finding something worth loving and committing yourself to." A friend came up with a title that he likes: *I Wrote This Book Because I Love You*. He's working on a book proposal first because a proposal will generate an advance, a framework, and a deadline. "When I was on my book tour, I went out for a drink with a girl who I guess is in her 20s," he says. "She is mostly a photographer but not quite sure what kind of artist she wants to be, and she confessed to me, after a pitcher or two, that she really wasn't sure she wanted to be an artist. She just didn't want to get a job. And I said, '*That's* what an artist is!' We pinky-swore not to reveal that to the public. It's a trade secret."

Friends of his talk about reading early drafts of the essays in *We Learn Nothing* and finding stories that, in some respects, Kreider has been sorting out for years in letters and conversation. The cartoonist Megan Kelso, who met him in 1998, says, "We started corresponding soon after we met, and I quickly realized that for him letter writing was the sort of early stages of ideas and thoughts for future pieces of writing. He wasn't just dashing off a note. The letter writing was part of his working process." In a four-page cartoon in his book, Kreider lampoons the development, through many retellings over many years, of the tale of his near-fatal stabbing in Crete. Part of the cartoon's text says, "There's a crucial phase early in the telling of a story when it's still fluid; it hasn't yet coalesced into its canonical form. You're still fixing the best details, eliding certain boring or inconvenient facts, learning how to structure and time it for effect." In one panel of that cartoon, Kreider notes, "After a few years, I realized that I was never going to be done telling this story. As long as I kept meeting people, I would always have to tell it again."

He is probably right. So here, as a coda, is the story—honed, polished, and recited by request on a late fall afternoon at the Undisclosed Location: "I had just turned 28 and I was on the island of Crete. I was walking a belligerent drunk girl back from a bar to a youth hostel. She was a belligerent but *attractive* drunk. On our walk back to the youth hostel we were accosted by someone else who was belligerently drunk. He was from Macedonia and he started yelling at us in Greek, which I don't really speak, but I'd spent enough time in the bars of Baltimore to know the universal language of belligerent drunks—he was trying to pick a fight with us.

"I don't know, maybe he misapprehended the situation and thought that I was forcing her somewhere against her will, which indeed I was but without depraved intentions. I wanted quite honorably to take her home and put her to bed and then resume peaceably drinking myself. So she got into it with him and was flailing out of my grasp, sitting down in the middle of the road and refusing to get up. I finally convinced her that the situation was authentically dangerous and hustled her out of there. I got us to an old mosque from the days of Moorish occupation of Crete, where there was a concert letting out. I figured we were safe. But I guess that guy got away from his friend and ran up behind me and stabbed me in the throat with a stiletto and then ran off. I never even saw him. It felt like getting hit by lightning. There was a very scary 10 or 15 minutes where it certainly looked like I was going to bleed to death. Then an ambulance showed up and I felt a lot better once professionals turned up at the scene and I thought, 'OK, I kept myself alive up to now, now it's in their hands and it's not my fault if I die.' They did surgery on me and I was out for a day or two and then I woke up and was fine. I was pleased to discover that I was still alive. It was a pretty quick existential scare and I was significantly cheered up for a time after that."

That stiletto-induced euphoria lasted only about a year, but Kreider cannot find much to complain about with his present existence. "Life happens the way it does," he says. "I don't think life happens for a reason. It's all a big mess and you just try to make sense of it later. But I think things have worked out about as well as could be hoped. Much of my life has been contingent. You know, I was adopted, and it was a crapshoot who I went home with from the adoption agency, and that worked out awfully well. I think of all the alternative-universe me's, I'm probably near the top. I may not be the winner, but I'm one of the runners-up. Things are going OK in this universe."

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

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Privy to History

The Homewood Museum offers an object lesson in history.

Bret McCabe | ILLUSTRATION Mark Smith

Eugene Fauntleroy Cordell—Confederate Army veteran, medical historian, president of the Johns Hopkins Hospital Historical Club from 1902 to 1904—co-founded the Home for Widows and Orphans of Physicians in Baltimore with his wife in 1909. It started with a Relief of Widows and Orphans fund by the Medical and Chirurgical Faculty of Maryland in 1903; in 1909, a board was assembled to start a home. And on January 11, 1912, the board purchased the building at 1615 Bolton Street, a "three-and-a-half-story brick mansion with a frontage of 20 feet and depth of lot 132 feet," Cordell wrote in a letter to the editor in the February 3, 1912, issue of the *Journal of the American Medical Association*. "It is in the choicest residence section, off the lines of street cars yet easily accessible to several of them. There is a wide alley in the rear and the surroundings are exceptionally good."

According to the January 1912 issue of the *American Journal of Clinical Medicine*, the home was endorsed by a number of prominent Americans and Baltimoreans, including Cardinal James Gibbons, Archbishop of Baltimore, and William H. Welch, first dean of the Johns Hopkins School of Medicine. "We desire to receive any doctors' widows or orphans who need help and we will do the best we can for them," Cordell wrote of the home's purpose. "We do not exact any admission or other fees, but shall be glad if

applicants will aid us with any funds they may possess or may be able to command."

Little more about the home is readily ascertained. The home's founding was noted in many professional medical journals in 1912, and it appears in various documents in the Maryland State Archives, citing acts that award it funding—$3,000 for the 1916 fiscal year. In June 1913, according to the *Medical Record*, vol. 82, Randolf Winslow of Baltimore proposed turning operation of the home over to the American Medical Association, since its "scope was already national and the only object in making this offer was to provide for permanence." According to the Maryland State Department of Assessments and Taxation, the structure currently at 1615 Bolton Street was built in 1920. Over roughly six weeks of research in historical documents, letters, and newspapers and periodicals in various digital and physical archives, little more could be determined about the home, and even less about who might have lived there.

Students aren't just learning about history here; they get to sit on it and touch it and hear about it.

Little, that is, if bathroom hearsay doesn't count. On one wall of the privy built just to the north of the mansion that now houses the Homewood Museum is a rather coarse announcement written in pencil: "If you want to get a piece of nice ass you can call at Miss Mowen 1615 Bolton Street Baltimore, Maryland."

The graffito dates from when the mansion served one of two roles. In 1897 it became the home of the Country School for Boys in Baltimore, started by Anne Galbraith Carey, the grandmother of philanthropist William Polk Carey for whom the Carey Business School is named, with help from then Johns Hopkins President Daniel Coit Gilman. The school took up residence in the mansion that Declaration of Independence signer Charles Carroll of Carrollton had built as a wedding present for his son in 1801. From 1897 through 1910, whenever nature called, students—and, presumably, teachers—would scurry the roughly 200 feet from the northern door to the privy.

The writing is surrounded by other graffiti that appear particularly the purview of young male minds: other recommendations and thoughts on the fairer sex, a few rhymed lines written in what might kindly be called the vernacular, and the sort of anatomical drawings that wouldn't be out of place in the adult section of an independent comic book store. The school moved north to Roland Park in 1910 and assumed the name it has today, Gilman. Johns Hopkins University took up residence on the 140-acre lot that is now called the Homewood campus in 1916; the mansion served as administrative offices.

So depending on when, exactly, the graffito in question was written, it's possible that an adolescent boy's puberty-primed hormones inspired him to sing Miss Mowen's praises. Or maybe it was an undergraduate momentarily engaging in conduct unbecoming of a Johns Hopkins student.

Had the above 708 words been turned in as a paper in Catherine Rogers Arthur's Introduction to Material Culture class as is, they would be hit with a pretty harsh grade. Not quite long enough to fill five double-spaced pages, they neither adequately nor accurately tell a story of one example of the privy's graffiti. And it's definitely too long yet insufficient for a 150-word wall text that would accompany its inclusion in a museum exhibition.

"When you're limited to a roughly 150-word label you've got to get at this pretty fast," Arthur, the director and curator of the Homewood Museum, tells the 11 students in her fall 2012 class. "This is why you have to do the paper, because until you write it as five pages, you really don't know enough about it to be able to write a meaningful short label. I've tried it that way, and what people give me for a 150-word label is not worthy of the wall."

Arthur stands in the guesthouse showroom of Stiles T. Colwill's interior design practice, which is located on his family's farm northwest of Baltimore. Her students sit in a living room outfitted with enough furniture, paintings, prints, maps, rugs, ceramics, and books to give a museum an instantly enviable collection of early American art and design.

Arthur has brought the students to hear Colwill talk about selected prints in his collection; each student will choose one to research. Since 2006 the Museums and Society minor in the Department of the History of Art has offered Arthur's Material Culture class. The matriculating students, usually about 12, spend the fall semester researching some aspect of early life in

Maryland, the time in which Homewood mansion's original occupant, Charles Carroll Jr. (1774–1832), lived. Working with Arthur, the students become assistant curators, researching and assembling museum exhibitions. The first class created the 2007 show *Feathers, Fins, and Fur: The Pet in Early Maryland*. *Welcome Little Stranger: Pregnancy, Childbirth, and Family in Early Maryland* followed in 2008. *Next to Godliness: Cleanliness in Early Maryland* opened in 2009; it featured the privy and other scatological items, but more on that in a moment.

This year the student curators are working on *Portrait of a City: Views of Early Baltimore*, which opens December 4. It's an effort to put together prints, paintings, and fiber works that might suggest what Baltimore looked like when Charles Carroll Jr. was alive. Hence this visit to Colwill's gorgeous showroom. He doesn't merely have a private collection of works suited to the subject matter. Colwill, the former director of the Maryland Historical Society, was one of the consultants who helped turn the Homewood mansion into a museum. Students aren't just learning about history here; they get to sit on it and touch it and hear about it.

Mounting an exhibition is one of the subtle ways Arthur encourages her students to understand history as an active process that requires both rigorous research and creative storytelling. "How do you get the essence of [your chosen] print in a way that is going to be meaningful to the visitor and viewer?" Arthur asks the class. "Let this stuff float through your head, and while you're here today, see which images you keep being drawn back to because that's an important clue."

In the process, Arthur's approach to exhibition design in the class allows students to consider that history doesn't have to be long ago and somewhere else. There are stories to be told about that building sitting over there right next to the Milton S. Eisenhower Library. "I really like the historic house museum setting because in that sort of model, the building is your primary collections object," Arthur says during an interview at the Homewood Museum. "Because a house is a place for people to live, it lets you talk and think about and research all these aspects of daily life, the timelessness of the human condition, and then cool antique objects and the craftsmanship standpoint of it. How did they do that? How did they make it? Why does it look that way? And what can we learn about how we live now from how they lived then?"

It helps that the stories that come out of researching Homewood are sometimes funny. Colwill told the class that the archaeology excavation around the mansion in the 1980s uncovered a site riddled with thousands of pieces of broken glass. It was a small heap not too far from a side window that opens to an office off the master bedchamber. The glass pieces were determined to be wine bottle shards from the time, and given the weight of an empty wine bottle, the pile's location was consistently about a good toss from the window. And Charles Carroll Jr. was a famous alcoholic. "It became very clear that Mr. Carroll was in that room half passed out and he'd finish [a bottle of wine] and just fling the bottle out the window," Colwill says.

That's the kind of casual entry point when thinking about the history of the not-*that*-long-ago: The people who lived at the time are as recognizably flawed as we are today. The technology that they used was different, and the surroundings looked different, but on a basic level they had the same wants and desires. They needed to eat. They had pets. They loved each other. They had kids. They drank too much.

And, well, they eliminated waste. The city of Baltimore was late to plan and build a citywide sewage system, a type of municipal infrastructure that started to emerge in the United Kingdom and United States in the mid-to-late 19th century. It wasn't until after the Great Fire of 1904 that Baltimore began construction on the system that serves the city today. These large-scale city works came about because of the population booms in urban centers in the 19th century, when issues of sanitation and public health became intertwined and the traditional manner of handling waste—emptying outhouses/privies into streets and nearby waterways or having their contents collected by night soil men—proved untenable. According to the 1940 U.S. census, 45 percent of the population lacked complete indoor plumbing facilities. By the 2000 census, that percentage had dropped to less than 1 percent, and the indoor

The people who lived at the time are as recognizably flawed as we are today. They needed to eat. They had pets. They loved each other. They had kids. They drank too much.

PHOTOGRAPH BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

plumbing question wasn't asked on the 2010 census. As commonplace as the tub/shower and toilet being located in the same room may be to us now, that living arrangement is of very recent vintage. In fact, to many of our 19th-century forebears, the proximity of the place where you get clean and the place where you do the other would not compute.

In the case of Charles Carroll Jr. and his family, they were quite well-off, and their external privy would have been a luxury at the time. In fact, it's actually two privies—one chamber for men and one for women and children. There's a curious geometry to its location: The Homewood mansion is 128 feet wide, and the mansion and privy fall on the arc of a circle with a radius of 128 feet. It's a 10-by-13 rectangular building done in the mansion's stately Federal-style architecture: red bricks, white window trim and doors, a slate roof. Inside are hardwood floors, gray wood paneling, and a domed plaster ceiling that is currently reinforced by temporary support. Imagine a luxuriant state building's domed entryway scaled down to the size of an efficiency apartment's kitchen. Now, build a seating area against one wall that is topped with a wooden plank featuring a series of oval cutouts.

The Homewood Museum recently restored the privy's roof and external structure. Funding and work are still needed for the ventilation, to slow down the deterioration of the wood paneling and plaster dome, but even to somebody accustomed to porcelain toilets that whisk everything out of sight, these 1801 facilities are pretty posh.

Even so, nearly 200 feet is a long enough jaunt in the middle of the night to discourage anybody from wanting to make the journey out the door, down the steps, and across the grounds simply to tend to a biological function. Fortunately, the time period afforded other options—such as a circa 1815 pewter bedpan (see image at left) bearing the marks of Baltimore pewterer Samuel Kilbourn. It's a deep, circular pan with a handle, and knowing what it is makes its function pretty clear. Without that knowledge, well, its use could be open to interpretation.

That's one of the exercises Arthur runs through with her students at the beginning of the class. She'll bring out an object from the Homewood collection and ask the students to look at it and try to think about what it was used for. The bedpan is one of her perennial favorite examples. One year a student made a reasoned argument that it was a different sort of pan. The scratches on its underside? Those would come from its being moved over a burner on a stove. The curved lip at the top of the pan? That keeps liquids from splattering out. Surely this was something used to, say, make breakfast.

"And I cannot keep it glued together, and they start laughing because I'm laughing," Arthur recalls. "I said, 'It's not for cooking. It's sort of after that part.'"

Sometimes how the Carrolls lived then nicely dovetails with how we're trying to live now. Last year the class curated *Federal Foodies: From Farm to Table in Early Baltimore*. "It had a kind of relevance to current thinking about sustainability," Arthur says. "What they were trying to do here with Homewood as a farm was to make it semi-self-sustaining, at least self-sustaining with other Carroll family properties." In their research, Arthur and the students came across newspaper clippings and advertisements that addressed food supplies and cooking. They shared those clippings with Spike Gjerde, the owner and chef behind Baltimore's farm-to-table restaurant Woodberry Kitchen, who catered the exhibition's opening.

"A lot of things that we're trying to do, some of the clearest guidelines on how to do it are 100, 200

years old," Gjerde says. "We don't give [early Americans] enough credit for how sophisticated their approach to food was. [Arthur] showed newspapers that advertised, essentially, for CSAs [community-supported agriculture] in the 1800s. Somebody was actually offering to grow on a subscription basis fresh produce for you and your family."

It's not just the culinary arts that are looking back to how we once lived. As it turns out, the large-scale centralized sewage systems of Western urban cities are not practical or economically feasible in the developing world. What's needed is a more self-contained and easily constructed system that doesn't need to be connected to a large public water supply and decontamination system.

What's needed, in other words, is a new kind of privy. In October 2011 the Bill & Melinda Gates Foundation announced its Reinventing the Toilet campaign to deal with the estimated 2.5 billion people worldwide who don't have a safe, sanitary way to deal with human waste. It stipulated a few constraints: The new toilet needed to work without electricity, a septic system, or running water. It shouldn't discharge pollutants and, ideally, should convert waste into energy. And it should cost about 5 cents per day to operate. In August a design team from the California Institute of Technology was awarded a $400,000 grant for its design, which harnesses solar energy to transform waste into hydrogen gas that can be used in fuel cells, water that can be used for irrigation, and organic matter that can be used as fertilizer.

In some parts of the world, though, an old-fashioned privy will do. Pit latrines, privies in public health jargon, are the preferred method of curbing the practice of people finding any old place to eliminate in rural areas the world over. "We still have an estimated 1.1 billion people engaged in open-air defecation," says Jay Graham, SPH '07 (PhD), a former Johns Hopkins Center for a Livable Future fellow and an assistant professor at George Washington University's School of Public Health and Health Services. His work focuses on water supply, sanitation, and hygiene in sub-Saharan Africa and Bangladesh. He recently completed an analysis of 34 sub-Saharan countries in an effort to determine which ones may be able to meet a goal of ending open-air defecation by 2015. Currently Angola is the lone country that he studied on track to do so.

"Most [open-air defecation] is in South Asia, but even in Niger you have over 80 percent of the population engaging in [the practice], which is linked to diarrheal disease. We have an estimated 1.7 million under the age of 5 dying each year from diarrheal diseases. So without sanitation you have this fecally contaminated environment that helps to contribute to these diseases."

Combating that behavior is a strategy called Community-Led Total Sanitation, which involves rallying a local population to understand how much human waste is seeping into their water supplies. One method involves taking a hair, dipping it into feces, dropping it into a glass of clean water, and offering people a drink of it. "You can't really see the hair, and once it's been dipped in the water, the water still looks very clean," Graham says. "And at some point a light bulb goes off and they go, 'We are eating each other's shit and we have to stop this.' Then as a community they decide they want to become open air–defecation free. And then they build pit latrines, basically. This is a big movement, and it's the only thing that's really giving us hope in the sanitation sector because we're seeing large numbers of people begin to value sanitation after this process. So we're making progress in rural areas—we're beating population growth."

Such are the cycles of technological innovation: Sometimes what's old becomes new again. Eugene Fauntleroy Cordell understood that. In a 1904 address to the Medical and Chirurgical Faculty of Maryland titled "The Importance of the Study of the History of Medicine," he observed that "since history is ever repeating itself, it is manifestly the part of wisdom to make it the object of our closest study, that we may profit by its lessons, both of success and of failure; for what others have done or have failed to do should point the way to their successors, whether in search of individual, social, or national guidance."

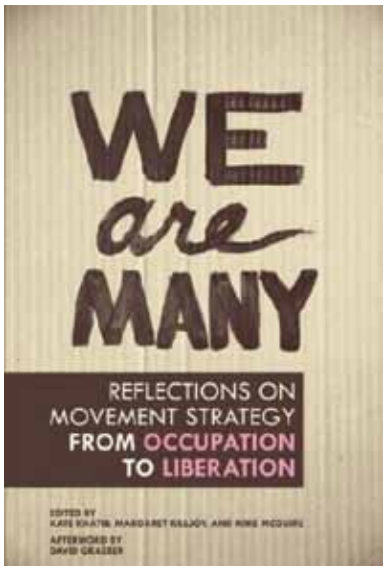
He learned that lesson from experience. His 1903 book *Medical Annals of Maryland, 1799–1899*, a history of early Maryland medicine, runs nearly 900 pages. For specific thoughts on female anatomy of the late 19th and early 20th centuries, however, it may be entertaining to consult a different text.

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

"A lot of things that we're trying to do, some of the clearest guidelines on how to do it are 100, 200 years old."

Spike Gjerde

We Are Many
Kate Khatib, Margaret Killjoy, and Mike McGuire



POLITICS

Post-Occupied

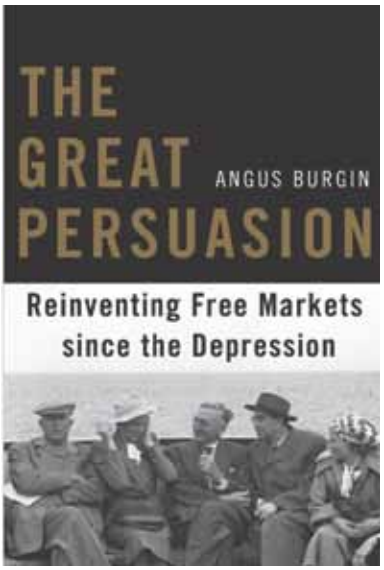
From the outset, the Occupy Wall Street movement was hard to digest. Initially branded an anti-capitalist protest, it soon became more nebulous. Neither side of the American political spectrum could quite define it, nor could the media, but that didn't stop anyone from criticizing it. Occupy lacked leadership. It produced no singularly articulated demands. It had no clear political agenda. What do these people want?

Such frustration is fair enough—it is difficult to have a political discussion with an agitprop Tower of Babel. But ask: Does this noise have some purpose? Occupy recognized that when any movement reduces itself to a sound bite, it has already acquiesced to a status quo in which pre-existing political platforms and news organizations control the narrative. Occupy challenged this norm and short-circuited the switchboard. Noise was the message because the usual buzzwords and search-engine-optimized headlines no longer sufficed.

Such is the passionate argument of *We Are Many: Reflections on Movement Strategy from Occupation to Liberation* (AK Press, 2012). Co-edited by Kate Khatib, a doctoral candidate in intellectual history at the Johns Hopkins Humanities Center; activist writer/photographer Margaret Killjoy; and organizer Mike McGuire, this 400-plus-page primer brings together roughly 50 writers, artists, and photographers to explore the ideas that shaped the Occupy movement. The book is organized under loose thematic umbrellas, allowing for everything from discussions of class and race in activism (such as "Occupy and the 99%," co-written by editor McGuire and Lester Spence, an associate professor in the Krieger School of Arts and Sciences' Department of Political Science) to overviews of creative labor that came out of Occupy camps.

Interspersed throughout are first-person stories from Occupy experiences—the personal glue that holds the political discussions together. Together, they remind us that although people may not always agree—and to the editors' credit, the book's authors don't all see eye to eye—common ground will never be found via the mutually assured destruction of today's current polarization. That impression makes the book feel like a pragmatic toolkit. It's not trying to convince readers what to think; instead, it advocates that different ways of framing America's problems may be the only way to start solving them. **Bret McCabe**

The Great Persuasion
Angus Burgin

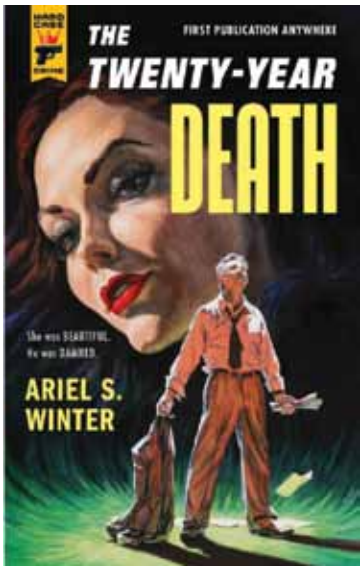


BUSINESS

Free Market Musing

In *The Great Persuasion: Reinventing Free Markets since the Depression* (Harvard University Press, 2012), Department of History Assistant Professor Angus Burgin masterfully explores how economic reckonings of free markets have influenced the currency of ideas, from John Maynard Keynes declaring the end of laissez-faire in 1924 through Milton Friedman's advocacy of deregulated free markets in the 1960s and 1970s. Burgin recognizes economics theory as a philosophical imperative, showing how free markets' moral imperative differs in the ideas of those two Chicago School titans, Friedrich von Hayek and Friedman. Impressively researched and engagingly written, *The Great Persuasion* explores how free markets morphed from socioeconomic pariah to panacea over the 20th century's latter half. **BM**

The Twenty-Year Death
Ariel S. Winter



FICTION

Crime Stories

Genre homages are annoying enough; author homages entirely execrable. So it's a minor miracle that Ariel S. Winter's *The Twenty-Year Death* (Hard Case Crime, 2012) doesn't just work but is genuinely fun. Winter, A&S '02, pens three interlocking set pieces, each taking place in a different decade and assuming a different crime master's voice: Georges Simenon for the 1930s, Raymond Chandler for the 1940s, and Jim Thompson for the 1950s. While the prose mannerisms are effective, it's how Winter links them together that makes *Death* less a monkeys-typing-Hamlet instance of mimicry and more a sly conceptual feat, treating genre as a readymade and aiming for original territory—which Winter damn near finds. **BM**

...Fannie Gaston-Johansson

Hollis Interviews

Fannie Gaston-Johansson
Professor of acute and chronic care

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.

Trivia: Gaston-Johansson is the first African-American woman to be a tenured full professor at Johns Hopkins and the first nurse to be elected to the Royal Swedish Academy of Letters, History and Antiquities, a scholarly organization established in 1753.

Favorite place to travel: The west coast of Sweden

Favorite musicals: *The Sound of Music*, *Dreamgirls*, and *Mamma Mia!*

First, tell me about the Painometer!

The Painometer is an easy pain assessment tool that enables patients to identify the location of their pain, the kind of pain, and how much they are bothered by the pain. The Painometer distinguishes between the emotional and sensory components of pain. The sensory component differentiates cramping, burning, stabbing, and pressing pain, for example. There are 14 different terms. Then patients indicate how much they are affected by the pain, whether it is nagging, agonizing, troubling, tiring, or sickening. There are 11 different terms.

When did you first begin to think about issues of language and pain?

Back in the 1980s, when I was working on my dissertation, at the University of Gothenburg, on pain assessment and psychological distress. I would be working with patients and asking about pain symptoms, and they would say things like, "Oh, I don't feel pain, I feel *ache*." I was learning Swedish at the time and, as in all languages, the different words for pain, such as *ache* and *hurt*, meant different things.

Do you think you would have come up with this tool if you weren't trying to learn a new language?

I don't think so. I was using the wrong terminology, and yet in the course of being told the right word, I would learn something more about the patient's pain. A child might say, "I don't have *ache*, my grandmother has *ache*. I have *hurt*." Every term carries different meanings that can make a difference in diagnosing a symptom. Specific language is crucial, whatever language you are speaking.

Is the Painometer in wide use?

Not yet in the United States. We're using the tool in research studies, primarily in research into chronic pain syndrome and postoperative pain. Eventually it might be standard in medicine cabinets at home. The pain location diagram, with numbered regions, would allow a patient to describe over the phone the specific location of his or her pain, which would help in diagnosis. The Painometer is used pretty widely in Norway and Sweden and has been cited in studies there.

Your recent work is in health disparities and breast cancer?

Yes, I've been researching disparities in treatment for African-American women with breast cancer. I've been involved in studies of symptom management, chemotherapy, and pain management. We've been looking at the coping strategies of African-American women after cancer treatment, including studies that involve their significant others—husbands, brothers, partners, parents. It's very

ILLUSTRATION BY ANJE JAGER
PHOTOGRAPH BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

satisfying work. After his mother died of breast cancer, President Bill Clinton put a substantial sum of money into the Department of Defense to study breast cancer. This was outside the National Institutes of Health; he was looking for new approaches to research.

You've divided your time between Baltimore and Gothenburg, Sweden, for decades. How did you manage this?

I have four children. They were getting older and I wanted them to learn more about American culture and my heritage, so we moved to the States after I had lived 16 years in Sweden. I was happy to be home again and the kids loved the USA, so we stayed. I have, however, traveled back to Sweden many times during my tenure at Johns Hopkins University, and I served as dean of nursing at the University of Gothenburg.

When you aren't working, what do you like to do?

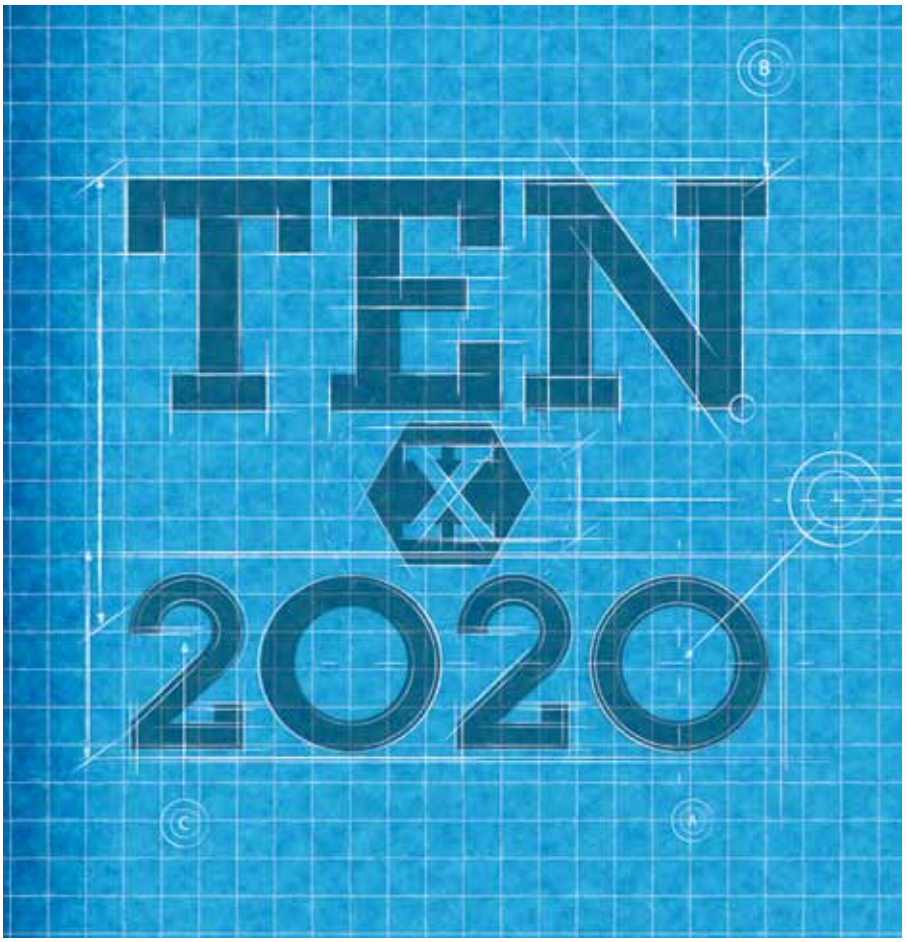
I like musicals! I like the one with the songs by Abba—*Mamma Mia!*—I've seen it on stage and also the movie version, with Meryl Streep and Pierce Brosnan.

Do you think the Painometer would be helpful in describing relationship heartache?

Yes, absolutely!

Fannie J. Gaston-Johansson is a University Distinguished Professor and former chair of the Department of Acute and Chronic Care in the School of Nursing, and director of the Center on Health Disparities Research.

A Decade of Ideas



In his February 22, 1876, inaugural address, Daniel Coit Gilman, Johns Hopkins University's first president, delivered an expansive overview of the state of higher education in the United States, the United Kingdom, France, and Germany. The address included 12 "determined points," general agreements about what university education should be. The 12th included a practical reminder that excellence doesn't on laurels rest: "Almost every epoch requires a fresh start."

President Ronald J. Daniels recognizes our current epoch as a time of great change in higher education, and he's outlined his vision to sustain Johns Hopkins' role as an institution of discovery and innovation. Inspired by earlier universitywide efforts to envision the university's future, Daniels has launched the Ten by Twenty initiative, which identifies 10 goals for the university to achieve by 2020. And he wants to know what you think.

When the Office of the President announced the plan in November, the president's website (web.jhu.edu/administration/president) made available a PDF of the working draft of the goals. "Through the remainder of the year, I will be seeking your thoughts on how to shape the vision in the document," Daniels writes on the site. "I invite you to contribute your ideas about the Ten by Twenty and your aspirations for our university through the feedback form on the website or by emailing 10by20@jhu.edu."

It's a sincere opportunity to provide feedback about the university's path in the years to come. By citing Johns Hopkins' distinctions—its founding as America's first research university, its role in shaping modern medical education, its relationship with America's oldest music conservatory, the numerous recognitions of its faculty and alumni (19 Nobel Prize winners, six Pulitzer Prizes, 38 Lasker Awards, etc.)—Daniels appeals to the industrious creativity that has forged the university's legacy. He acknowledges the challenges facing higher education today, particularly the need for interdisciplinary collaborations and the paradigm shifts wrought by technology, before identifying how he envisions Johns Hopkins' future.

The themes are the same ones he outlined as the goals for his presidency in his September 2009 inaugural address—the call to become one single Johns Hopkins University, continuing to cultivate a culture of individual excellence, and a commitment to the communities in which the university resides. In Ten by Twenty he adds institution building to those three goals, and the draft begins to outline the combination of economic, administrative, and intellectual strategies for achieving them.

As Daniels notes, Johns Hopkins' "lists of firsts is not yet complete," and this initiative taps into the same drive that Gilman noted as higher education's *why* in 1876: "a reaching out for a better state of society than now exists." In 136 years, the particulars have changed, but the university's determination to move forward has not. **Bret McCabe**

Jays Win, Win, Win

On the third Saturday in November, Johns Hopkins athletics experienced the finest 10 hours in program history. Three teams participated in NCAA postseason competition. All of them won. But women's cross-country brought home the biggest prize of all—a national championship.

At the NCAA Division III national meet in Terre Haute, Indiana, three Johns Hopkins runners placed in the top 32 (out of 277 runners) to lead the team to victory by the largest points margin since 2002. Hannah Oneda completed a phenomenal freshman season by coming in 10th, earning all-American honors along with teammates Holly Clarke and Annie Monagle. Clarke became the program's first two-time all-American.

Cross-country's triumph is Johns Hopkins' first national championship in any women's sport. But the big day for women did not end in Indiana. That evening in Pennsylvania, women's soccer went up against unbeaten Lynchburg College in the Sweet 16 of the NCAA Division III soccer championship and ended the Hornets' season with a 3-1 victory. Kelly Baker, Jenny Hall, and Emily Nagourney scored for the Jays. Johns Hopkins' season came to a halt the following night as the top-ranked team in the nation, Messiah College, defeated the Jays in the national quarterfinals, 3-0. Johns Hopkins' sterling season ended at 18-5-1. Sophomore Hannah Kronick added to the list of accomplishments by Johns Hopkins athletes named Hannah when she broke the school record for goals in a season and was named conference player of the year. Head coach Leo Weil was named conference coach of the year.

Cross-country's championship was announced at halftime of the football team's first-round NCAA Division III playoff game. Coach Jim Margraff's team had already won its fourth straight Centennial Conference championship and come within two points of a second consecutive undefeated season. In the playoff game, the Jays dominated Washington & Jefferson College, amassing 595 yards of total offense in a 42-10 victory. At press time, the Blue Jays were set for a second-round encounter with the University of Mount Union, the nation's top-ranked team, in Alliance, Ohio. **Dale Keiger**

Ferrari's View
Bernard T. Ferrari

Hill Steps Down
Martha N. Hill

RIGHT: PHOTOGRAPH BY DAVID AARON TROY
LEFT: PHOTOGRAPH BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

Ferrari's View

Bernard T. Ferrari was 81 days into his job as dean of the Carey Business School when he stepped up to a lectern to outline what he had in mind for the school's direction. The subtitle of his address was "A Humanistic Approach to Business and Business Education," an indication that he intends to continue the program's emphasis on training businesspeople to understand that, as he put it in his speech's conclusion, "business success should not be an end strictly unto itself but rather the means for building a more successful society.

"We aspire not just to be different from other schools, not even just to lead, but to show a new way," he said.

Ferrari, who replaced founding Dean Yash Gupta last June, noted that public faith in corporate chief executives had declined substantially, and even faith in capitalism appeared to be wavering, forcing the most advanced capitalist societies to begin redefining the role of both public and private economic prerogatives. He said, "Those of us in the business of business education are compelled to ponder what has brought us to this pass."

In response, he said, business schools must train future leaders who can navigate with agility not only business but government and social sectors, and who "understand the consequences of their behaviors on the greater stage called market, called community, called society." Going forward, the Carey Business School, he said, will concentrate on four parts of the American economy "that involve alarmingly large amounts of resources": real estate and infrastructure, national security, health care, and financial services. He noted that the school had recently decided to strengthen its programs relating to health care and the life sciences, and he emphasized its commitment to research: "It is among my chief objectives to see that the Carey Business School becomes an equal contributor to this university's great culture of discovery." **DK**

Hill Steps Down

When the School of Nursing was established as a full-fledged division of Johns Hopkins University in 1983, Martha N. Hill, Nurs '66, SPH '86 (PhD), was one of its first four faculty members. Nineteen years later, Hill became the school's dean. During the ensuing decade, she oversaw a 440 percent growth in the school's research funding, the revamping of its undergraduate curriculum, and the elevation of the school's graduate programs to a No. 1 ranking this year by *U.S. News & World Report*. In September, Hill announced her impending retirement as dean at the end of the current academic year.

Hill is a fellow of the American Academy of Nursing and serves on the Council of the Institute of Medicine of the National Academies. She became in 1997 the first nonphysician to serve as president of the American Heart Association. She will remain at the School of Nursing as a faculty member and researcher. **DK**

Leading DAR
Fritz W. Schroeder

Big Money for STEM
Barclay Elementary School students

PHOTOGRAPHY BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

Leading DAR

This fall, the university named Fritz W. Schroeder its chief development and alumni relations officer. In a September announcement, President Ronald J. Daniels described Schroeder as an "articulate and inspiring leader," citing his contributions to the university's annual giving, alumni relations, development, trustee engagement, and campaign planning and strategy efforts. "His passion for and loyalty to Johns Hopkins are legendary," Daniels wrote.

Schroeder has been with the university for 16 years, having first served as director of annual giving. In 2010, he was named vice president for development and alumni relations. He holds a bachelor's degree from James Madison University and an MBA from University of Maryland, College Park.

Schroeder succeeds Michael C. Eicher, who joined Ohio State University as senior vice president for advancement on November 1. **Catherine Pierre**

Big Money for STEM

Supported by a five-year $7.4 million National Science Foundation grant, Johns Hopkins experts are partnering with Baltimore City Public Schools to enhance teaching and learning in science, technology, engineering, and math. The program, called STEM Achievement in Baltimore Elementary Schools, or SABES, not only will benefit more than 1,600 students in grades three through five in nine city elementary schools, but could also become a national model for STEM education.

The project will engage more than 40 teachers in three local communities and will involve parents, after-school care providers, local businesspeople, community groups, and experts from Johns Hopkins, the Maryland Science Center, and the National Aquarium. The program will provide professional development for teachers, as well as curricular enhancements and training to enable after-school program providers to augment STEM education by involving children in activities that have resonance in their communities.

"Our aim is that this partnership will build excitement around science, technology, engineering, and mathematics," says Michael Falk, principal investigator for SABES and associate professor of materials science and engineering in the Whiting School of Engineering. "Our hope is that this model could eventually be extended to other school systems around the country to foster STEM educational achievement among all students, including those of different ethnicities, language proficiencies, and income levels."

According to Falk, it's vitally important to engage today's elementary-age students in STEM learning at a high level to prepare them for the 21st-century job market. "Nationally, the jobs being created require high amounts of skill with respect to science and mathematics," says Falk. "By engaging students early, we hope that they are prepared to meet that need and participate in the modern workforce fully." **Lisa DeNike**

Abbreviated

Edited by Catherine Pierre

KRIEGER SCHOOL OF ARTS AND SCIENCES

Tyrel McQueen, an assistant professor in the Department of Chemistry whose work focuses on materials with exotic electronic states of matter, was one of 16 young researchers nationwide to be awarded a 2012 David and Lucile Packard Foundation Fellowship for Science and Engineering. The fellowship comes with unrestricted funds of $875,000, distributed over five years. Physics and Astronomy's **Mark Neyrinck** and **Miguel Aragón-Calvo**, who use the Japanese art of origami as a metaphor for understanding the cosmos, won an award through the John Templeton Foundation–funded New Frontiers in Astronomy & Cosmology International Grant and Essay Competition.

WHITING SCHOOL OF ENGINEERING

The U.S. Air Force has selected a team led by Johns Hopkins engineers to start the **Center of Excellence on Integrated Materials Modeling**. The center, with $3 million in funding from the Air Force, will develop novel computational and experimental methods to support the next generation of military aircraft.

CAREY BUSINESS SCHOOL

Associate Professor **Lindsay Thompson**, A&S '01 (PhD), an expert in issues regarding the role of character and human values in business, society, and corporate culture, was elected to the Maryland Humanities Council's board of directors. *Advertising Age* magazine ran a feature in October on the new **MBA/MA in Design Leadership** being offered by the Carey Business School and the Maryland Institute College of Art. The joint degree aims to teach students to use design thinking to solve business problems.

SCHOOL OF EDUCATION

The school has named Teachers Without Borders founder **Fred Mednick** and Tutor.com founder and CEO **George Cigale** as visiting fellows. The Visiting Fellows program is designed to provide a forum where leading researchers and practitioners can evaluate new approaches to reforming educational practice in the United States.

SCHOOL OF MEDICINE

Lawrence J. Appel and **Gregg Semenza** became members of the Institute of Medicine in October. Appel directs the Welch Center for Prevention, Epidemiology, and Clinical Research. Semenza is a professor of pediatrics who researches the molecular mechanisms of oxygen regulation.

SCHOOL OF NURSING

The school ranked No. 1 among nursing schools for total **National Institutes of Health funding** for fiscal year 2012. Its nearly $8.6 million in NIH grants supports research into such areas as cardiovascular disease, aging, and violence prevention. Victory Media, a media entity used by military personnel transitioning into civilian life, has named the school to its 2013 **Military Friendly Schools list**, which recognizes the top 15 percent of colleges, universities, and trade schools that do the most to embrace service members, veterans, and spouses as students.

PEABODY INSTITUTE

Faculty artist **Amit Peled** has been given use of Pablo Casals' Matteo Gofriller cello by Casals' widow, Marta Casals Istomin, and the Casals Foundation. He will perform with Casals' cello, along with pianist **Alon Goldstein**, Peab '95 (GPD), '96 (MM), at the Kennedy Center in March. Orioles pitcher Steve Johnson visited the dance studios of the Peabody

GOLOMB'S GAMBITS™

Categories

Solomon Golomb, A&S '51

Here are three examples of words in each of 10 categories. These categories are related but distinct. Can you identify the categories from these samples?

1. false, neighbor, priest
2. bore, duke, free
3. lone, three, trouble
4. gorge, marvel, outrage
5. grate, hurt, wish
6. heart, wire, worth
7. fix, mix, rap
8. for, par, weigh
9. battle, court, fellow
10. fond, soft, wicked

Each of the following seven words could fit into (at least) two of the 10 categories. Can you determine which ones for each of these?

care, casual, child, hand, hope, king, win

Solutions on page 78

Preparatory in November to compare notes with several classes of young students on warming up, working out, and giving your all, whether onstage or on the mound.

BLOOMBERG SCHOOL OF PUBLIC HEALTH

In October, the school announced that more than 175,000 students had enrolled in its **Massive Open Online Courses** offered through Coursera. The school offers MOOCs on data analysis, nutrition, primary health care, biostatistics, and principles of obesity economics. The **Center for Communication Programs** was awarded a five-year, $108 million project by the U.S. Agency for International Development. The Health Communication Capacity Collaborative will help developing countries create their own communications projects to promote healthier behaviors.

PAUL H. NITZE SCHOOL OF ADVANCED INTERNATIONAL STUDIES

The SAIS Center for Transatlantic Relations held the third **Global Conference on Women in the Boardroom** in September, bringing together senior corporate executives, government officials, and corporate stakeholders worldwide to highlight initiatives aimed to achieve gender parity on corporate boards.

APPLIED PHYSICS LABORATORY

The International Academy of Astronautics awarded its 2012 **Laurels for Team Achievement** to the team leading NASA's Messenger mission to study the planet Mercury. APL built and operates the *Messenger* spacecraft, which launched in August 2004 and entered the orbit around Mercury in March 2011.

Welcome

It's about staying connected. With the world outside Johns Hopkins—as Carrie Tudor is doing in South Africa, researching tuberculosis risks among health care workers (p. 70). With other alums—like Robert and Janine Clayton, who started dating as undergraduates and stayed in touch for 27 years—with the help of Hopkins alumni events—before finally tying the knot (p. 72). It's also about making new connections, as JHU alumni are doing in Hawaii, Dubai, and many other places, thanks to the efforts of local alums who have started new regional chapters (p. 73). And it's about you, staying connected to the university by reading this magazine.

BODIES AND BUCKS

Written by | BRENNEN JENSEN

As a technical sales manager for an international chemical firm, Bob Riley, Engr '98, relies every day on what he learned in Johns Hopkins classrooms and labs. But he also carries with him abilities and insights gleaned from another campus location: the foam-covered floor of Goldfarb Gymnasium where he grappled for the Hopkins wrestling team for four years.

"The level of competitiveness involved with being a wrestler and the unrelenting dedication and preparation required are things I draw on all the time," Riley says. "Learning how to deal with emotional wins and painful losses gets built into your character, and I don't think there is a better way to develop leadership."

So, in summer 2011 when Riley heard about the inaugural Forever a Blue Jay Challenge, the yearlong fundraising campaign that playfully pitted sports programs against each other in a race to bolster giving to athletics, he knew what he had to do. It was time to go back to the mat for his old team. "First, I donated," Riley says. "Then I started encouraging other wrestling alumni to not only get in there and donate themselves, but to circulate the message to their own lists of friends who were on the team."

And this was what the Forever a Blue Jay Challenge was all about: building support for each sport from within each sport, valuing participation as well as dollars. Bodies and bucks. Here's how it worked: From July 1, 2011, to June 30, 2012, all 24 varsity sports programs worked to increase giving and participation in pursuit of two $5,000 prizes. One prize was for whichever program had the highest annual increase in dollars, the other for whichever program had the greatest percentage of its alumni giving back to the program. It was an approach that allowed smaller sports programs, such as wrestling, to compete on a level playing field with bigger ones, such as mighty men's lacrosse. All money raised went directly to the sports programs themselves, paying for such things as equipment, uniforms, or assistant coaching needs not covered elsewhere.

While more than half of athletic programs ended up having at least 15 percent of their alumni make donations, the baseball team hit it over the fence to take top honors (and the cash prize) in this category. More than 31 percent of former Blue Jay ballplayers made a donation.

Baseball head coach Bob Babb, A&S '77, who has led the team for more than three decades, was thrilled with the win but admits that the contest was right in his wheelhouse. Keeping his past players engaged and supportive of current activities on the diamond has long been a focus of his. "I have an enormous mailing list that I call Friends of Hopkins Baseball and am constantly sending them updates on the team," he says. "Most baseball players who played here had a wonderful experience and I want to keep them connected, knowing that they are going to want to contribute back to the program to make it even more successful and the experience even better for the current players."

PHOTOGRAPH BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

Men's baseball and women's volleyball took top honors—and an extra $5,000 each—in the inaugural Forever a Blue Jay fundraising challenge, in which teams competed to raise alumni support for their programs.

The women's volleyball team started the challenge in a different place. Head coach Matt Troy came on board just a year before the contest started, and one of his main objectives was to build a stronger alumni network for Hopkins volleyball. And the result? The volleyball team had a whopping 867 percent increase in donations during the challenge period, more than enough to take the $5,000 prize. "All athletes are competitive by nature, so I think this challenge was fun for them to compete a little bit while trying to help their programs out," Troy says. "I think it was a great idea."

All told, 19 of 24 individual varsity programs saw their alumni giving grow by 30 percent or more during the Forever a Blue Jay Challenge. More than 2,000 former Blue Jay athletes, parents, and friends made donations, increasing overall giving to athletics by 6 percent for the year. "We saw a huge spike in participation across the board," says Grant Kelly, the Department of Athletics' associate director of development. "We had a lot of alums step up to the plate to make a difference for our student-athletes. Many donors made gifts for the first time because they got motivated by the challenge and wanted their team to win and be recognized. Seeing the dedicated passion behind these donations was truly spectacular."

Oh, and how did Riley's wrestlers fare? Pretty well, actually.

The wrestling team came in second place in the percentage of alumni giving category, with nearly one in four former wrestlers making donations. Their impressive 215 percent increase in annual giving was good enough for third place in that category. Far from taking this close-but-no-cigar finish as a "painful loss," Riley was pleased with the outcome. "I'm proud of how we finished," he says. "It's a terrific reflection on the wrestling team and where its support is headed."

And Riley will have a chance to go back to the mat once again next July when the second Forever a Blue Jay Challenge kicks off. The old uniforms may fray and fade, but not the love.

TAKING DOWN TB

Interview by | MARIANNE AMOSS

Carrie Tudor recently began a National Institutes of Health Fogarty Global Health Fellowship in South Africa, where she will be expanding on her previous research on the occupational risks of TB among health care workers and how best to protect them against TB.

Carrie Tudor, Nurs '08, '12 (PhD), and Jason Farley, Nurs '03 (MS), '08 (PhD), came together over drug-resistant tuberculosis. Tudor, who had 10 years of experience in global health, had come to the School of Nursing to receive a clinical background to augment her master's degree in public health. In the doctoral program, she studied with Farley, an assistant professor in the Department of Community-Public Health. He invited her to work on a study examining nurses' attitudes and practices regarding infection control in 24 South African hospitals that were treating multidrug-resistant tuberculosis. TB is an enormous health problem in South Africa, where it is the leading cause of death in patients also infected with HIV, and for patients in the developing world, treatment can be prohibitively expensive and lengthy.

Tudor recently began a National Institutes of Health Fogarty Global Health Fellowship, which has taken her back to South Africa, where she'll work on preventing TB and its transmission among health care workers infected with HIV. She will also continue to collaborate with Farley, whose research focuses on the intersection of drug-resistant infections and patients with HIV.

In early September, Farley and Tudor reunited via Skype to discuss their shared dedication to eliminating this curable disease and improving the lot of health care workers. Farley spoke from his office at Johns Hopkins in Baltimore, while Tudor called from China, where she was consulting for the International Council of Nurses before heading to South Africa.

Carrie Tuberculosis is everywhere. It's preventable, it's treatable for the most part, and so for me, that's the compelling thing: How do we play a part in preventing the spread of TB, advancing the treatment and cure of TB, and bringing TB down in South Africa? There is such a shortage of health care workers globally, and particularly in sub-Saharan Africa. My emphasis is: How do we protect the health care workers that we do have, knowing they can get sick from going to work?

In China, I consult for the International Council of Nurses, training nurses on TB. Last year I met a nurse who had been working since 1979 when she graduated from nursing school—30 years working in a TB hospital—and had never received any TB-specific training besides on the job. Doctors get trained; nurses don't.

Jason The work Carrie's doing globally in educating nurses will light a fire that may start as a small flame but pretty soon it's a bonfire. Training nurses in TB is exceptionally important work and she is well-trained to do this. In my own work in infection control during the early 2000s SARS epidemic, I saw how much there is a thirst for education and training from the nursing profession in China. And we see this around the world. It speaks to a lack of recognition of the role that nursing—as a profession primarily of women—plays in many cultures.

PHOTOGRAPHY BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

C In many countries, especially in China, nurses have a low standing. Everything is very physician-focused, and the nurse is just there to carry out the doctor's orders.

J But I think that we are finally beginning to see countries and organizations understand and recognize the importance of the role that nurses play in a variety of settings—as direct care providers at the bedside as well as direct care prescribers and treatment initiators in primary health care settings.

C Exactly. For example, the training with the International Council of Nurses is called Training for Transformation. It's going on in 16 different countries throughout the world—China, India, Russia, South Africa, Malawi, the Philippines, a few places in West Africa, Mozambique, Kenya, Uganda, Swaziland, Lesotho. Our training provides an overview of TB: how it's spread, treatments, multidrug-resistant TB, pediatric TB, infection control, the whole picture. And then the rest of it focuses on best practices and standards for patient care. A lot of it gets nurses to think about the gaps that exist between what they should ideally be doing and their situation. We ask them to think about what they could do in their everyday role as nurses to help close that gap.

At the beginning of the training, they think, "I'm just a nurse. What can I do?" But by the end of the week they say, "I am a nurse, and this is what I have to do. If we don't do it, no one else is going to do it." They come in like little lambs and they go out at the end of the week like roaring lions.

J When we go out and do something that might seem like a small training, people, particularly nurses, take that information and run with it. It will trickle down in ways that you could never imagine.

C Yes, they do amazing things. Nurses in China who were trained a few years ago went back and created brochures to share with medical staff in the prisons, educating them on the signs and symptoms of TB, helping them screen for TB and better treat patients with TB. These nurses have gone around to different parts of the province to educate other hospital nurses and include doctors in their training. Several nurses last year did their own research studies; one study has been accepted at a high-level Chinese nursing journal. Another nurse has created a nurse management model that she's testing out for improving patient outcomes with multidrug-resistant TB treatment.

We play a very small part—just getting the information in the hands of these nurses so they can go back and institute positive change in their everyday practice, so they can improve best practices for patients with TB, and so they can push their hospital directors and managers to make changes in terms of infection control and other things that will benefit everyone. But there's real potential there to make changes on the ground.

Jason Farley is an assistant professor in the Department of Community-Public Health at the School of Nursing and a nurse practitioner in the Johns Hopkins AIDS Service within the School of Medicine. He is a co-director of the clinical core within the Johns Hopkins Center for AIDS Research and a Robert Wood Johnson Foundation Nurse Faculty Scholar. He continues to focus his TB work on multidrug-resistant TB and strategies to increase access to care and improve treatment outcomes, particularly in HIV co-infected patients.

SLOW BEGINNING, HAPPY ENDING

Written by | KELLY BROOKS

Robert Clayton, A&S '84, and Janine Austin Clayton, A&S '84, fell in love their sophomore year at Johns Hopkins. Twenty-seven years later, they finally tied the knot.

"We didn't really get along when we first met," admits Janine, who was introduced to Robert at a Black Student Union meeting. Her quiet nature and previously "cloistered" life attending Catholic schools couldn't have prepared her for Robert, a "big-man-on-campus kind of guy" who was a leader in the BSU, captain of the basketball team, and DJ for campus events. Robert's initial impression wasn't much better: "I thought she was very stuck-up," he says. "I *did* think she was attractive—that's a given!"

What finally brought them together? It was a Thursday night at the Rathskeller—a bar and dance floor in Levering Hall—and Robert was the DJ. "Out of the blue, she approached me," says Robert. "That was definitely out of character for her, and I wasn't going to waste the opportunity, so I asked her to dance."

The romance lasted for most of their time at Johns Hopkins. Although they parted ways at the end of their junior year, the spark was rekindled—this time long distance—during the first year at their respective professional schools. Janine went to Howard University College of Medicine and ended up in Washington, D.C., conducting clinical research at the National Institutes of Health. Robert traveled west, first graduating from law school at the University of Michigan and then moving to Los Angeles where he eventually worked his way into the city's largest family law firm.

Robert and Janine Clayton fell in love as undergraduates. Twenty-seven years later, they finally said "I do."

PHOTOGRAPH BY WILL KIRK/HOMEWOODPHOTO.JHU.EDU

It was around that time, in 1995, when the Society of Black Alumni formed, that they began to see each other more often. Robert, who was on the executive committee, would fly to Baltimore for the meetings "and we'd start dating for a while, but distance would get the better of us, and we'd break it off—until we got together again," he says. Eventually, says Janine, "we realized we could either keep doing this for another 27 years, or we could choose to get really serious about our relationship and our lives."

The couple chose to get serious and finally married on April 11, 2008. Today, they live in North Potomac, Maryland, close to Janine's work as director of the Office of Research on Women's Health, which coordinates all women's health research at NIH. Robert's home base is in Maryland, but he still commutes to his thriving law firm in Los Angeles, which he started in 2000 to represent celebrities, athletes, and other high-net-worth individuals in family law cases.

"Hopkins alumni events gave us a reason to keep coming back to one another," says Janine. "Without Hopkins being at the center, I don't think we'd be together."

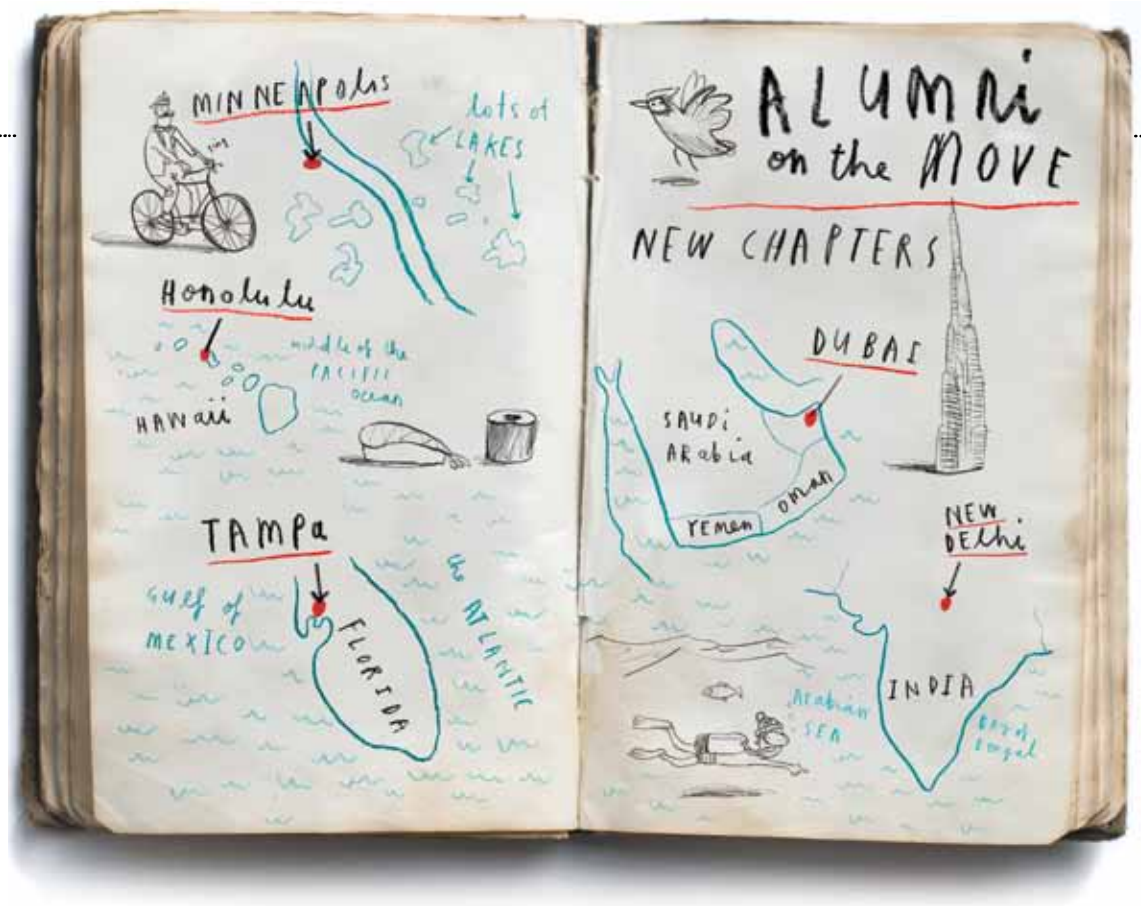


ILLUSTRATION BY OLIVER JEFFERS

ALUMNI ON THE MOVE

Written by | KRISTEN INTLEKOFER

Johns Hopkins alumni chapters have been growing—fast—all over the world. Within the past year, thanks to a new model of support introduced by the Office of Alumni Relations and the grassroots efforts of local alums, a number of new regional chapters have gotten their start. Here are just a few.

In **Hawaii**, what began with several young alumni getting together informally for game nights and happy hours has become a small but growing community. Chapter leader Luis Oros, A&S '11, who came to Honolulu last year with Teach for America, says it can be difficult staying connected to friends and family on the East Coast, but the Hawaii chapter is "kind of like a pseudo-family." Oros reports that so far, the group includes alumni from the Krieger School of Arts and Sciences, the Whiting School of Engineering, and the Bloomberg School of Public Health, "and parents, actually," he adds. "We had a parent of an alum join us [for an event]." In August, the group hosted a send-off party for rising freshmen headed to Johns Hopkins in the fall, and a beach barbecue—it *is* Hawaii, after all—is in the works for January.

Roughly 4,000 miles away, Denise Anderson, A&S '89 (PhD), found herself in a similar situation, adjusting to life in **Minneapolis** after relocating for a job. Looking to make friends and network in a new city, she started a local alumni chapter, connecting with other alums, including Genevieve Gallagher, Engr '04, and Anthony Scinicariello, Engr '97, who helped organize the Leadership for Scientists and Engineers event at St. Jude this past September. For future events, the group is considering themes such as nanotechnology, water quality, and a behind-the-scenes look at a local museum.

And over in **Dubai**, Peter Davos, A&S '00, and Karina Schumacher-Villasante, A&S '05, have formed the first Johns Hopkins alumni chapter in the United Arab Emirates. Though they initially started the group to connect with other Hopkins alums for networking and social events, they now are planning to expand by joining forces with other Ivy Plus chapters in the region. "I love the people I've met," says Schumacher-Villasante of living in Dubai with its diverse mix of cultures and backgrounds. "Everyone has a great story and a fascinating path."

To get connected with these or other regional chapters, visit alumni.jhu.edu/chapters.

MORE THAN MEETS THE EYE

Written by | RACHEL WALLACH

Deception lay at the heart of Adolf Hitler's rare stab at diplomacy in 1940. Aboard his private train, *Amerika*, Hitler embarked on a series of visits with the leaders of Italy, Spain, and Vichy France to promise favorable outcomes for those nations that agreed to close off British access to the Mediterranean—promises he never intended to keep.

Deception in turn dealt the diplomatic attempt its fatal blow. The three European leaders—Benito Mussolini, Francisco Franco, and Philippe Pétain—let Hitler believe they would in some measure cooperate with his scheme but double-crossed him by failing to deliver and pursuing their own interests instead.

"He thinks he's got it squared away, but it wasn't," says Eliot Cohen, professor at the School of Advanced International Studies and director of the Philip Merrill Center for Strategic Studies, which he founded. Cohen recounted this little-known World War II episode in roughly the same Mediterranean territory where it occurred, his audience—wineglasses in hand—the 100 or so travelers on a recent Johns Hopkins Alumni Journeys cruise to Italy and the Adriatic coast. Having boarded the *Corinthian II* in Rome, the group spent 10 days learning about history and art, listening to opera, and touring such cities as Taormina, Sicily; Kotor, Montenegro; and Piran, Slovenia.

The Alumni Journeys program is designed to create a community of shared exploration. To learn more, go to alumni.jhu.edu/travel or call 1-800-JHU-JHU1.

PHOTOGRAPH BY BRIAN GOYETTE

Cohen, one of three study leaders on the tour and an amateur magician, included in his deception-themed lecture series a magic trick to whet his audience's appetite for the trickery he says intrigues us. His second talk told the 1943 story of "The Man Who Never Was," when British intelligence agents dressed a derelict corpse in a Royal Marine uniform, chained a briefcase to its wrist containing a fake letter ostensibly written by the No. 2 British army official, and floated it ashore off Spain, believing it would be picked up by pro-German officials. As the British had hoped, the letter's false information was surreptitiously passed to the Germans, causing them to prepare for a British advance in Greece or Sardinia and leaving the actual target, Sicily, exposed. Of this and other talks delivered over the course of the trip, Cohen says, "I tried to give a sense of how complex and contingent history can be."

The Alumni Journeys program is designed to create a community of shared exploration, says Susan Baisley, A&S '80, associate vice president for constituent engagement in the Office of Development and Alumni Relations and the host of this tour. "To have the level of expert insight into topics so relevant to the part of Europe we were in was really quite magical," she says.

That sense of exploration often spilled beyond the lectures and into lengthy Q-and-A sessions. Most nights, the discussion grew so extensive that the cruise director had to cut it off to send everyone to dinner.

1943

Sidney J. Socolar, A&S '43, '44 (MA), '45 (PhD), retired in 1984 from the University of Miami Miller School of Medicine as professor emeritus of physiology and biophysics. Today he works in the fields of public health policy analysis and policy advocacy.

1948

Fritz Hessemer, Engr '48, reports that he has six grandchildren and two great-grandchildren, plays flute in baroque chamber ensembles, and enjoys solving algebra word problems and playing the game Upwords with his wife.

1953

Ronald Berggren, A&S '53, was named a distinguished fellow of the American Association of Plastic Surgeons.

Alvin Deutsch, A&S '53, is an adjunct professor of law at the Benjamin N. Cardozo School of Law at Yeshiva University. He serves on the boards of the Johnny Mercer Foundation, Goodspeed Opera House, Little Orchestra Society, and the Sheridan Libraries' National Advisory Council.

William Maginnis, Engr '53, and his wife, Mimi, are active in charity work and are particularly excited about their work with an orphanage in Baja, Mexico.

Joe Strohecker, Engr '53, lives outside Atlanta and is involved in local Johns Hopkins alumni activities.

1958

Merrill Berman, A&S '58, retired in June 2004 and is enjoying time with two children and four grandchildren.

William Loring, A&S '58, is retired and serves as the scholar in residence at St. Paul's Church in Brookfield, Connecticut.

Stanley Matyszewski, A&S '58, loves to travel, especially to visit his children and seven grandchildren.

John Texter Jr., A&S '58, Med '62, HS '71, is a clinical professor in the Department of Surgery at the Virginia Commonwealth University School of Medicine. He is also active with the U.S. Coast Guard Auxiliary.

1960

Richard Shugarman, A&S '60, was appointed to the Florida Board of Medicine in June. He is an ophthalmologist and resides in West Palm Beach, Florida.

1963

Howard Ginsberg, Engr '63, '68 (MS), retired in 2009 as principal engineer at Northrop Grumman. He has coached a junior league wrestling team for 28 years and still plays softball.

Stuart Lessans, A&S '63, is retired from his ophthalmology practice and is a full-time father to 11-year-old twins Matthew and Faye.

Ethan Seidel, A&S '63, '77 (PhD), was elected chair of the board of directors of Carroll Hospital Center in October 2011.

Ronald P. Spark, A&S '63, is the namesake of an annual Distinguished Service Award created this spring at the University of Arizona College of Medicine's Department of Pathology. Spark, a clinical associate professor at the school and active participant in professional and community activities, received the inaugural award in April.

1964

Alan E. H. Emery, Med '64 (PhD), received the 2012 Award for Excellence in Human Genetics Education from the American Society of Human Genetics. He was recognized for distinguished work through lecturing, mentoring, establishing programs, and his writings, which include more than 300 peer-reviewed articles and 26 books on all aspects of human and medical genetics.

Michael Steinberg, A&S '64 (MA), '71 (PhD), executive vice president of academic programs for IES Abroad, received the Education Abroad Leadership Award from NAFSA: Association of International Educators in honor of more than 35 years of contributions to the education of students studying abroad.

1967

Don Rocklin, A&S '67, a cardiologist, is an assistant clinical professor at the Yale School of Medicine. He has three children and two grandchildren, and he spends time volunteering.

1968

Neil Grobman, A&S '68, retired from Astra Zeneca in 2010 and is now an education consultant.

Roger Himler, A&S '68, works in addictions psychoeducation in a medium-security prison. He still sings and plays guitar.

Henry Hocherman, A&S '68, retired in April 2011 from Hocherman Tortorella & Wekstein LLP, the law firm he helped found in White Plains, New York. Along with his wife of 42 years, he splits time between Florida and New York.

David Millstone, A&S '68, is a member of the National Executive Committee for the Anti-Defamation League and is the organization's international affairs chair.

Connie Siskowski, Nurs '68 (Dipl), was named a 2012 CNN Hero for her work that brought to light the previously unrecognized population of youths who are caring for an ill, disabled, or aging family member. She founded the nonprofit American Association of Caregiving Youth in 2002, providing support to more than 500 young caregivers.

Kenneth Torrington, A&S '68, is semiretired and serves as an accreditation site visitor for graduate medical education programs.

1970

Joseph Millar, A&S '70 (MA), is one of 10 poets named as Guggenheim Fellows for 2012.

1972

Norm Gross, A&S '72, a practicing psychotherapist who resides in Sharon, Massachusetts, sends his regards to all and reports that he and his wife have been doing a lot of gardening and traveled to Italy in May.

1973

David Levine, A&S '73, '75 (MA), is co-chair of Science Writers in New York and writes about health and medicine.

1974

Henrietta "Heddy" Hubbard, SPH '74, has been named associate executive director, science and quality, for the American Urological Association. During the past five years, she served as AUA's director of guidelines. She previously served with the U.S. Department of Health and Human Services, most recently with the Agency for Healthcare Research and Quality.

Walter Merrill, Med '74, HS '82, a cardiothoracic surgeon, is chief of staff at Vanderbilt University Hospital, where he also holds a faculty appointment.

1977

Marc Duvoisin, A&S '77, was named managing editor of the *Los Angeles Times* in August.

P. Rea Katz, A&S '77, earned a doctorate with a concentration in educational policy and leadership from Marquette University in May 2011.

Thaddeus Rutkowski, A&S '77 (MA), received one of 18 $7,000 fellowships in fiction writing from the New York Foundation for the Arts. The author of several novels, he teaches at Medgar Evers College in Brooklyn, New York, and at the Writer's Voice at the West Side YMCA in Manhattan.

1978

Orly Avitzur, A&S '78, has been a medical adviser and editor at *Consumer Reports* since 2008.

Lawrence Durban, A&S '78, is in his 24th year as an attending cardiothoracic surgeon at St. Francis Hospital in Roslyn, New York.

Caren Fleit, A&S '78, is performing a cabaret show at the Duplex in New York City in spring 2013.

Lawrence Najarian, A&S '78, is president of the Armenian American Health Professionals Organization and on the faculty in the Department of Ophthalmology at New York University School of Medicine.

Amy Schectman, A&S '78, is CEO of Jewish Community Housing for the Elderly, a nonprofit organization that provides affordable housing to very low-income seniors in the Boston area.

1981

Sheila Forman, SAIS Bol '81 (Dipl), A&S '82, a visiting professor in the Psychology Department at Loyola Marymount University in Los Angeles, is a clinical psychologist and an attorney.

Humberto Hernández-Haddad, SAIS '81, was awarded the Commander's Award for Public Service by the U.S. Army. He is the Mexican consul general to the United States in San Antonio, Texas, as well as an attorney and former Mexican legislator.

Noel Eyring Slotke Paschke, Ed '81 (MS), was honored by the University of Maryland School of Dentistry as the inaugural recipient of the Linda DeVore Dental Hygiene Alumnus Award for representing the integrity, intellectual curiosity, community-mindedness, and leadership epitomized by DeVore, former director of dental hygiene. Paschke is on the Dean's Faculty at the University of Maryland School of Dentistry and provides consulting services in the dental industry.

1983

Ronald Gilberg, A&S '83, is president of the Pasco County Medical Society and chief of staff at Regional Medical Center Bayonet Point in Hudson, Florida.

1986

Joe Jacangelo, SPH '86 (PhD), was recognized as Volunteer of the Year by the American Water Works Association. He is an adjunct associate professor at the Bloomberg School of Public Health and vice president at MWH Global, a wet infrastructure–focused strategic consulting, environmental engineering, and construction services firm.

Gary F. Panariello, A&S '86, was promoted to managing principal in the New York City office of Thornton Tomasetti, the international engineering firm.

1988

Anne Robinson, Engr '88, '90 (MS), became chair of the Department of Chemical and Biomolecular Engineering at Tulane University in January.

1989

Chris Sanagustin, A&S '89, was tapped in August to head current programming for Universal Television, the studio that produces shows including *Parks and Recreation*, *Saturday Night Live*, and *Late Night with Jimmy Fallon*. She will oversee all Universal Television–produced dramas and comedies.

Classic with a Twist

"I wanted to present music that people were not familiar with, but that would widen their appreciation of the classical guitar and classical music," says musician Benjamin Beirs, Peab '06, '07 (MM), '09 (GPD), who released his second solo album, Widening Circles, *in January. Primarily funded through Kickstarter, the album includes Beirs' original composition, "Awakened Awareness," which has been described by critics as meditative and melodic with hints of Eastern overtones. It's the type of music that is just right for his occasional performances at meditation retreats. "My piece," Beirs explains, "was my own attempt at evoking the experience of meditation"—another of the young musician's passions. Beyond producing an album, this year Beirs performed in a sold-out concert with the Kennedy Center Chamber Players; he also performs both in the United States and internationally in Duo Transatlantique with French guitarist Maud Laforest, Peab '06, '07 (MM). See benjaminbeirs.com for 2013 performance dates.* **LISA BELMAN**

PHOTOGRAPH BY KATYA CHILINGIRI

1990

Bernadette Engelstad, A&S '90 (MA), was appointed as a research collaborator for Arctic Inuit art with the Arctic Studies Center at the Smithsonian Institution's National Museum of Natural History.

Marc Spindelman, A&S '90, is the Isadore and Ida Topper Professor of Law at the Ohio State University Moritz College of Law. His scholarship focuses on certain problems of inequality, chiefly in the context of sex and death.

1991

Carolyn Hayward-Williams, Engr '91 (MS), a certified project management professional and engineer who has worked in transportation for 25 years, is now a senior principal at Delcan.

Peter M. Krask, Peab '91 (MM), co-wrote an award-winning opera, *With Blood, With Ink*, based on the true story of 17th-century Mexican nun Juana Inés de la Cruz, a renowned intellectual, poet, and champion of women's rights who was forced by the Inquisition to sign an oath in blood renouncing her life's work. The opera will make its professional world premiere with the Fort Worth Opera during its 2014 festival season.

Elizabeth Legenhausen, Ed '91 (EdD), retired on June 30 after 25 years as head of St. James Academy in Monkton, Maryland. During her tenure, the school added two grades and increased enrollment from 144 students to 300. She had worked at the school since 1967.

1993

Edward S. Tuvin, Bus '93 (MBA), joined Wells Fargo & Company as the business banking relationship manager for the greater Washington, D.C., region. He will focus on the financing of medical practices.

1995

Ned Jastromb, A&S '95, and his wife, Madina Bekoeva, welcomed a son, Eric Nicholas Jastromb, on July 11 in Manhattan.

Kendra Preston Leonard, Peab '95, a musicologist, was recently appointed to the American Musicological Society's Committee on Membership and Professional Development. She also serves as the managing editor of the *Journal of Music History Pedagogy*.

1996

Victor B. Ibabao, SPH '96, accepted a position with the Global Health Research Foundation as director of Cultural Programs and Public Health Education in March. In April, he was sworn in as a commissioner with the Health Care Reform Implementation Stakeholders' Working Group of Santa Clara County in California.

Aletha Maybank, A&S '96, was recognized by the *Network Journal* as one of its "TNJ 40 Under Forty" honorees, recognizing top-level business executives nationwide. She is an assistant commissioner in the New York Department of Health and Mental Hygiene and director of the Brooklyn District Public Health Office.

1998

Elizabeth Zeuschner Kamins, A&S '98, and her husband, Rob, welcomed their first child, Henry Alexander Kamins, in May. They live in Chevy Chase, Maryland.

2000

Nance Cunningham, SPH '00, completed a health textbook that is for use in independent postsecondary schools in Myanmar.

Tomas Q. Morin, A&S '00 (MA), has been awarded the 2012 American Poetry Review/ Honickman First Book Prize for his manuscript *A Larger Country*.

Timothy J. Nagle, Bus '00 (Cert), joined Reed Smith LLP in August as a senior data security and technology attorney in the Global Data Security, Privacy, and Management Practice in the firm's Washington, D.C., office.

2001

Brendan Gallagher, A&S '01, SAIS '01, received the General George C. Marshall Award for graduating first in his class from the Command and General Staff College at Fort Leavenworth on June 8. He is serving in the U.S. Army and currently holds the rank of major.

2002

Richard Fontaine, SAIS '02, a leading expert on foreign policy and national security matters, is now president of the Center for a New American Security.

Michael J. Proulx, A&S '02 (MA), '06 (PhD), took a post in September as senior lecturer in psychology at the University of Bath. He was chosen as a torchbearer for the Paralympic Games for his research into blindness and his ongoing engagement with the blind community.

Margaux Coady Soeffker, A&S '02, was named a 2012 Minnesota Rising Star by *Super Lawyers*. She is a senior associate attorney with Tressler Law in Minneapolis.

2003

Rachel Hare Bork, A&S '03, graduated from Columbia University in May with a doctorate in politics and education.

Sarita Corn, A&S '03, was honored in January by the Honolulu City Council for her extensive community service in Hawaii.

2004

John "Jay" Johnson, Bus '04 (MBA), was appointed president of Software AG USA Inc., as of August 1. Previously, he was senior vice president at Micro Strategy and responsible for leading the North American sales force.

Mark Sorokin, A&S '04, competed as a member of the USA Deaf Soccer team at the second World Deaf Football Championship held in Ankara, Turkey, in July.

2005

Lauryn Bell Fullerton, A&S '05, Ed '07 (MAT), is the founding principal of Noble Auburn Gresham College Prep, a Chicago public charter high school that opened in August and is looking to become the first charter school in Chicago to offer the International Baccalaureate diploma.

2006

Joseph Bubman, SAIS Bol '06 (Dipl), SAIS '07, and **Chris Powell, SAIS Bol '06 (Dipl), SAIS '07**, launched a job search site called Company Connector.

2007

Barry Hopkins, Ed '07 (MS), '07 (Cert), was honored in June as Maryland's winner of the Presidential Awards for Excellence in Mathematics and Science Teaching at a ceremony in Washington, D.C. He received a $10,000 award from the National Science Foundation.

PHOTOGRAPH BY MIKEY KAY

Style Maven

"Like a lot of Hopkins students who are first-generation Americans, I thought I would be a doctor," says Eva Chen, A&S '01, who was premed her first three years at Johns Hopkins. But her enthusiasm for writing, beauty, health, and fashion led her to New York and, later, to a position as beauty and health director/special projects editor at Teen Vogue, *where she worked for seven years. "This demographic," Chen says, "is still experimental—in a good way—and open to suggestions and guidance." They are also plugged in* all *the time, and Chen keeps in touch with more than 1.5 million followers through Google Plus, Twitter, and her popular Tumblr blog,* Whatever Eva Wants, *featuring everything from the latest Nars eye shadow palettes to backstage photos from Fashion Week to career advice for readers looking to enter the fashion industry. Today, she is a creative consultant for Condé Nast and author of a lifestyle book due out in summer 2013.* **LISA BELMAN**

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GOLOMB'S ANSWERS

Categories

Solutions (Puzzle on page 66)

The 10 categories correspond to 10 different common endings.

1. -hood: falsehood, neighborhood, priesthood
2. -dom: boredom, dukedom, freedom
3. -some: lonesome, threesome, troublesome
4. -ous: gorgeous, marvelous, outrageous
5. -ful: grateful, hurtful, wishful
6. -less: heartless, wireless, worthless
7. -ture: fixture, mixture, rapture
8. -ty: forty, party, weighty
9. -ship: battleship, courtship, fellowship
10. -ness: fondness, softness, wickedness; OR -ly: fondly, softly, wickedly

The seven words that can fit into (at least) two categories are: careful/careless; casualty/casualness; childhood/childless; handsome/handful; hopeful/hopeless; kingdom/kingship; winsome/winless.

Trip Neil, A&S '07, served as the captain of the USA Deaf Soccer team at the second World Deaf Football Championship held in Ankara, Turkey, in July.

2008

Stephen Kampa, A&S '08 (MFA), received the Gold Medal in the Florida Book Awards competition for his book of poetry, *Cracks in the Invisible* (Ohio University Press, May 2011), which also received the Ohio University Press Hollis Summers Poetry Prize.

Chris Lewis, SAIS Bol '08 (Dipl), SAIS '09, **Daniil Davydoff, SAIS Bol '08 (Dipl), SAIS '09**, and **Tim Preston, SAIS '10**, are the members of Megaphone Barons. The three-person band was voted the Washington, D.C./Baltimore Band of the Month for September 2011 by readers of *The Deli*, a website devoted to the independent music scene.

Chandrani Mondal, A&S '08, '09 (MS), is a graduate student in the Department of Biology at the Massachusetts Institute of Technology.

Cassandra Vogel, A&S '08, married Luc Soteu on May 19.

Raffi Wartanian, A&S '08, received a Fulbright research grant to analyze the development of civil society in his ancestral homeland, Armenia, where he currently resides. He recently completed his debut solo album of original music, *Pushkin Street*.

2009

Simeone Tartaglione, Peab '09 (GPD), is music director of the Newark Symphony Orchestra, music director of the Delaware Youth Symphony Orchestra, head of the core orchestral department at the Music School of Delaware, and an associate conductor with the Mid-Atlantic Symphony Orchestra. He served as a judge for the Rosa Ponselle International Voice Competition in Caiazzo, Italy, and has two daughters.

2012

Danielle Nemzer, A&S '12, traveled to Southeast Asia with **Alex Rose, A&S '12**, after graduation. She resides in Washington, D.C., and is a federal analyst for Deloitte Consulting.

IN MEMORIAM

Edward J. Funk, Engr '33, March 18, Towson, Maryland.

Theodore Milton Miller, Engr '35, July 18, Newport, North Carolina.

Edward Lawrence Suarez-Murias, A&S '38, '71 (MLA), Med '42, HS '44, '47, July 2, Baltimore.

Paul M. Densen, SPH '39 (ScD), July 9, Iowa City, Iowa.

Douglas Durston Fear, Med '39, HS '40, August 15, Roanoke, Virginia.

Bertram Girdany, Med '43, HS '48, July 31, Sarasota, Florida.

Kathaleen V. Kennedy, Bus '44, August 3, 2010, Hunt Valley, Maryland.

Jeanne Norquist Sturrock, Nurs '44 (Cert), July 8, West Palm Beach, Florida.

Lillian Anthony, Nurs '45 (Cert), June 27, Naples, New York.

Betty Corey Owen, Nurs '45 (Cert), July 10, Kennewick, Washington.

Joseph Marvin Young, Med '45, HS '46, July 13, Missoula, Montana.

Ula Girdany, Nurs '46 (Dipl), November 18, 2011, Sarasota, Florida.

Richard C. Bund, A&S '47, December 17, 2011, Oak Harbor, Washington.

Robert Kotlowitz, A&S '47, August 25, New York.

Thayer Mills Mackenzie, Med '47, June 24, Stillwater, Minnesota.

Alexander Ludlum "Lud" Michaux Jr., A&S '47, May 20, Timonium, Maryland.

Richard C. Michael, Engr '48, July 30, New Oxford, Pennsylvania.

Bernard D. Panitz, Engr '48, November 22, 2010, Wilmington, Delaware.

C. Georgia Brown, A&S '49 (MA), July 16, Baltimore.

Robert M. Coulbourn III, Engr '49, May 23, Towson, Maryland.

William Saunders "Bill" Coxe, Med '49, HS '50, August 2, St. Louis.

Raimond del Noce Sr., SAIS '49, August 3, Hudson, Quebec, Canada.

Gerald Parker Hodge, Med '49 (Cert), June 7, Ann Arbor, Michigan.

William Waters Kirk IV, A&S '49, Ed '53 (MEd), June 18, Catonsville, Maryland.

John F. Troxel, Med '49, July 6, Marion, Iowa.

Warren W. Hassler Jr., A&S '50, '54 (PhD), July 12, La Jolla, California.

Robert Sherk, A&S '50 (PhD), July 8, Lockport, New York.

Allen W. Thompson, Engr '50, July 5, Suwanee, Georgia.

Darwin James Blaine, A&S '51, June 17, Charlotte, North Carolina.

Lawrason Lee Kent, A&S '52, Engr '68, July 23, Riverside, Rhode Island.

Shirley Wang Ling, Peab '52 (Cert), July 8, Merion Station, Pennsylvania.

Richard C. Pohl, Engr '53, Bus '61, January 27, Parkville, Maryland.

Gottlieb C. "Bud" Friesinger II, Med '55, '62 (PGF), HS '57, July 23, Nashville, Tennessee.

John Anton Waldhausen, Med '56 (PGF), HS '57, May 15, Elizabethtown, Pennsylvania.

William J. Bicknell, A&S '58, June 5, Marshfield, Massachusetts.

Walter Lee Cawood, HS '58, June 27, Winston-Salem, North Carolina.

Anthony R. Cosgrove, Ed '58 (MEd), May 15, West Orange, New Jersey.

Daniel L. Moore, Med '58, June 27, Long Branch, New Jersey.

Solbert "Sol" Permutt, Med '58 (PGF), May 23, Baltimore.

James A. Sandell, Engr '59, June 18, Concord, North Carolina.

Davis Boling, HS '60, August 5, Tampa, Florida.

George Herman Kessler Jr., Med '60, July 30, Winchester, Virginia.

Peter B. Nickles, A&S '60, August 12, Rochester, New York.

Donald A. "Don" Pirie, HS '60, July 6, Clinton, Mississippi.

John Lloyd Spriggs, A&S '60, May 11, East Pennsboro Township, Pennsylvania.

Marshall A. Permutt, A&S '61, June 10, St. Louis.

Wilfrid E. Rumble Jr., A&S '61 (PhD), May 11, Poughkeepsie, New York.

Fu-Tien Sung, Engr '61 (PhD), July 28, Durham, North Carolina.

Paul Ming Hsung Yen, HS '61, '64, July 5, Westlake Village, California.

Kenneth Huszar, SAIS Bol '62 (Dipl), June 19, New York.

John C. Fiege, Ed '63 (MEd), March 2, Onancock, Virginia.

Robert A. Swanson, Engr '63 (MSE), Bus '68 (MS), June 29, York, Pennsylvania.

Paul W. Kohnen, Med '64 (PhD), '65, May 7, Portland, Oregon.

David L. Rimoin, HS '64, Med '67 (PhD), '67 (PGF), May 27, Los Angeles.

Glendon E. Rayson, SPH '65, July 12, Hollywood, Florida.

Charles R. "Chuck" Callanan, A&S '66 (MAT), July 6, Falmouth, Maine.

William R. Schillings, Engr '67, August 9, Bethlehem, Pennsylvania.

James W. Althouse III, A&S '68, June 9, 2011, Hudson, Ohio.

Nancy W. Burton, A&S '68 (MA), August 19, Ringoes, New Jersey.

Rodney S. Gobrecht, A&S '68 (MLA), July 30, Reisterstown, Maryland.

Martin Lewis Johnson, Engr '70 (PhD), May 12, Marshfield, Vermont.

Martin H. White, Engr '70 (Cert), June 9, Jupiter, Florida.

Patricia Cook Moynihan, HS '72, July 30, Franklin, Tennessee.

Helen Jane Landon, SPH '73, August 26, Salisbury, Maryland.

Barbara L. Seboda, A&S '73 (MLA), January 28, Columbia, Maryland.

Robert M. Benson, Med '74 (PGF), August 19, Canton, Ohio.

Edward E. Sommerfeldt, Engr '80 (MS), May 14, Towson, Maryland.

Needham Joseph Thompson, SPH '82, July 7, Seguin, Texas.

Dawn Stauffer Hyde, Bus '83 (MAS), May 11, Towson, Maryland.

Donald Liu, A&S '84, August 5, Chicago.

Thomas A. Woodward, SPH '85, June 25, Abilene, Texas.

Jane Marie Koehler, A&S '99 (MLA), June 7, Williamsburg, Virginia.

Christopher J. Connors, SPH '02, July 3, Paoli, Pennsylvania.

Anthony "Tony" Lorizio Jr., A&S '03 (MA), August 11, Brockton, Massachusetts.

FULLY IMMERSED

Written by |
JEFFREY BLITZ, A&S '90, '91 (MA)

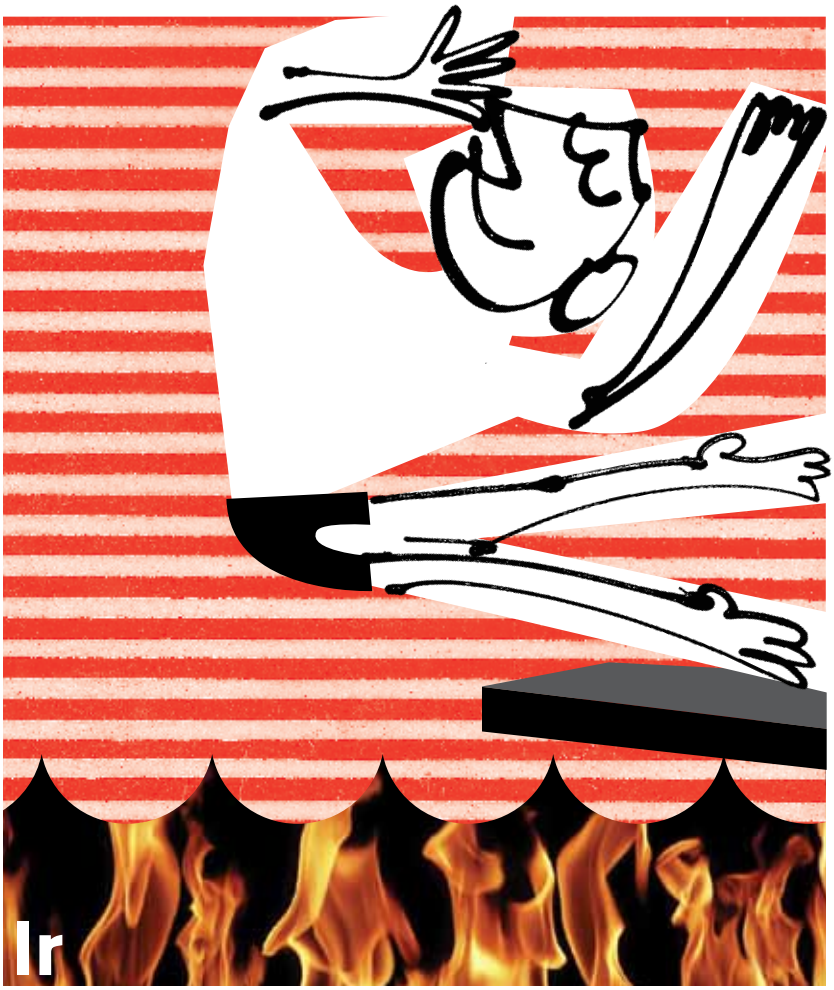

ILLUSTRATION BY LAURIE ROSENWALD

I had applied to eight colleges. The first seven replies I got were rejections. While we waited for the final blow to arrive in the mail, my family tried to help me envision my college-less future. "You'd have plenty of time for piano lessons," my mom said. "Or you could take up that karate," my dad floated during one especially vivid and depressing kitchen table talk. There was a gathering sense that at 16 years old I had somehow already driven myself into an inescapable dead end.

High school had been hard for me, which I guess is simply to say that when I was a teenager, I was a teenager. I was full of anger at who-knows-what, eating mainly cheese ravioli and Blimpie sandwiches, rocketing between poles of secret despair and daydreamy hopefulness. Some of my friends seemed to be acquiring the kind of fortitude to handle the dreary duties of adulthood, but not me. The essay portion of my college applications had been used to try to vaguely explain away the jumble of my GPA—I stuttered! I had scoliosis! Our dog ran away (before coming right back)!—but there was something even then that felt a shade dishonest. My perplexing academic record was less an aberration to be excused and more an inadvertent truth gaining momentum: I wasn't at all good at things that didn't interest me; I was very good at the things that did.

If the algorithms favored by college admissions offices were mainly about evaluating persistence in the face of boredom, if that final pudding of high school was really the creation of young people who could withstand the doldrums to come, then I could not be considered a success story and colleges had reason to turn me away. But I think now what I did have going for me, though harder to quantify, was a growing aptitude for diving into what I loved and disregarding all the rest. This is not the same as saying that I could only handle the fun stuff. That's not what it feels like to engage in something with real conviction.

I don't know how a university is supposed to know whether a kid studying X-Men comic books deep into the night is a sign of expanding imagination or limited intellect, or whether a kid who succeeds wildly at debate but fails massively at math is doomed or full of promise, or if class clowning signals a useful disregard for authority or a nagging lack of seriousness. But the ability to lock onto true interests no matter what anyone else thinks of them, and then go deep, has served me better than a B+ in calculus ever would have.

Seven schools sifted the sum total of my high school achievement and found dust. Only Hopkins would see little flecks of something shiny in the pan.

Jeffrey Blitz was nominated for an Academy Award for his first movie, the documentary *Spellbound*, and won the directing prize at Sundance for his feature debut, *Rocket Science*, about a high school debate team in New Jersey. He's also won the Emmy Award for comedy directing on *The Office* and is currently executive producing a new series for Comedy Central.

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