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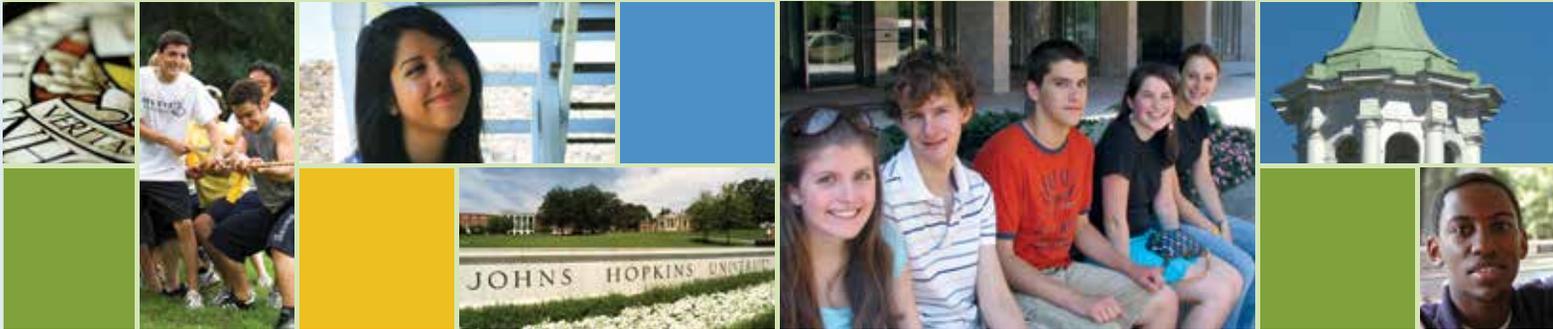


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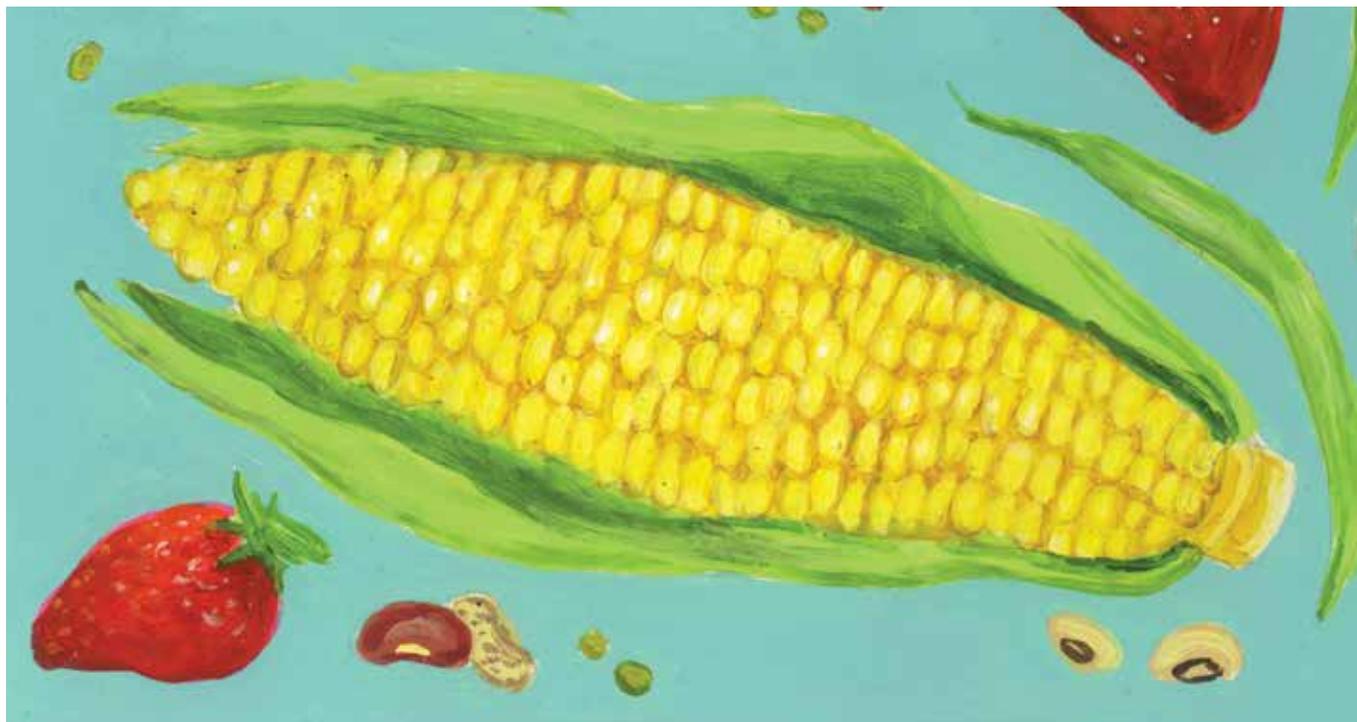
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are looking here for light.”*

Daniel Coit Gilman  
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**Guido Scarabottolo** (“The Smart Set,” illustration, p. 80) is an Italian-born graphic designer and illustrator. He has illustrated book covers for Italian publisher Ugo Guanda Editore for many years, and his advertising work has appeared in a worldwide advertising campaign for Salone del Mobile, the world’s largest design fair.

**On the cover**

**Christopher Myers** photographed swimmers from the Blue Jays men’s and women’s teams for our cover story about longtime Johns Hopkins swim coach George Kennedy. This photo was shot underwater at the varsity pool in February. Myers’ clients include the United States Olympic Committee, Harper Collins books, *National Geographic Traveler*, *The New York Times*, *Baltimore* magazine, and several other publications. His work is also in the collections of the Reykjavik Museum of Photography in Iceland and the Baltimore Museum of Art.





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Paula E. Boggs, Esq., A&S ’81  
Johns Hopkins Legacy Society Co-Chair

Through her will, Paula Boggs will help Johns Hopkins as well as her family.

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65

**I think I could go off the grid. At least for a little while.**

In fact, my family has a tiny cabin in West Virginia where we seek refuge from the rush of daily life, one weekend at a time. It's not, strictly speaking, off the grid—electricity supplied by the local power company is the one amenity—but there's no running water, no phone line, no cable, and—blissfully—no cellphone or Internet access.

So it's not surprising I took interest when I learned that Susannah Hopkins Leisher, SAIS '92, was writing for *The New York Times' Green* blog about her family's year off the grid in Maine. A kindred spirit! And a Johns Hopkins alumna! Upon her return, I asked her to write an essay for the magazine about what it was like to come back ("Out of the Woods," page 52—that's one of her photographs above).

As it turned out, getting back into the routine wasn't easy. Or perhaps it was *too* easy. Susannah quickly found herself caught up in the mind-numbing crush of day-to-day details she had tried to leave behind. And she realized it was time to do something even harder: confront her reasons for going into the woods in the first place.

"Writing this article has been a difficult and fascinating exercise in trying to pin myself down to what, if anything, has changed," she wrote in a draft. "Perhaps like a puddle on pavement after rain, the words may reflect some truth."

Susannah is a beautiful writer, and she's searching for what so many of us yearn for: a sense of meaning, of purpose. Happiness. I think you won't have to go off the grid to find a kindred spirit here.



EDITOR Catherine Pierre

**Creature comforts**

I just finished reading “Privy to History” in the Winter 2012 issue and thought I would pass along my recollections on the subject. I spent the first seven years of my life living at 203 South Exeter Street, a small three-story row house in Baltimore’s Little Italy. Built in the 1880s, it had a 5-foot-high basement with a dirt floor, and there was a trap door to the roof on the third floor to help with warm summer nights. Joseph Lattore, my grandfather, rented the house for himself, his wife, and six children. When one of his daughters—my mother, Lena—married, he and all the others relocated entirely to the second and third floors. In a few years, my parents had three children, so there were a dozen of us living in a confined space during most of the 1940s.

What I remember most about living there was the terrible trip out the back door, especially in the heat of summer or the cold of winter. What we had to do was scoot out the kitchen door, traverse a small portion of the cemented backyard, and step into the malodorous world of the privy. In the “back house” as we knew it, you literally froze your butt off in cold weather, but summer was much, much worse.

I still marvel at the beauty of indoor plumbing.

**John Strumsky, Bus ’69**  
Catonsville, Maryland

**A decision about mental health care is not like deciding on a religion; evidence counts.**

**‘Freud is deader than Elvis’**

How long will it take for *Johns Hopkins Magazine* to catch up with what Johns Hopkins physicians have long ago concluded? I refer to the respectful hearing that your publication has given recently to Freudian psychoanalytic theory. Two years ago, there was an article [“Wielding a Pen and an Analyst’s Arsenal,” Fall 2011], and, in the latest issue, there is a long letter from a psychoanalyst [Dialogue, “What Divide?” Winter 2012]. Paul McHugh, until not long ago director of the psychiatry department at the School of Medicine, wrote a succinct assessment, or more accurately an obituary, of psychoanalysis in the *Wall Street Journal*: “Freud is deader than Elvis.”

Back in the pre-Jurassic era, 40 years ago, when I was working toward a PhD in psychology at the University of Chicago, I remember noticing how poorly Freud’s theories stood up in empirical studies. For example, in a cross-cultural study on the Oedipus complex, there was no evidence that it existed in any of the cultures studied. The writer, Max Eastman, who

knew Freud, reported that Freud had based his Oedipal theory on his observations of a single person—Freud himself.

In science, and especially in a complicated area such as mental health, the weight of evidence is what counts. There are a few studies here and there that psychoanalysts cling to, but the totality of research is that psychoanalysis finishes out of the money compared to the alternatives.

A decision about mental health care is not like deciding on a religion; evidence counts. Psychoanalytic treatment entails therapy up to four days a week and can last for five years or longer. That is a lot of money and time invested that could have been used for other, more effective therapies.

**Mark Borinsky, A&S ’65**  
Baltimore, Maryland

**Go Jays!**

I was thrilled to see Catherine Pierre kick off the last edition [Note, Winter 2012] with a well-deserved acknowledgment of the superb performance of Hopkins athletics over the past couple of years!

As a former football player, I had so much pride to be a part of an athletic community that put academic standards on par with athletic standards. With an American culture that subtly perpetuates a stereotype that academics and athletics are mutually

**A sampling of the current top 50 Google searches leading readers to the Hub, the university’s news website:**



exclusive when it comes to greatness, I hope Hopkins disrupts that misguided perception for younger generations.

The Jays' performance in the latest Capital One Cup rankings may be the biggest indicator yet of our great accomplishment. Thank you for honoring us.

**Hewitt Tomlin, A&S '12**  
Bowie, Maryland

## Art in miniature

Just a clarification on "Tiny Treasures" [Artifact, Winter 2012]. Netsuke are not specifically miniature Japanese masks. They are actually any small carving used to secure a purse or other container hanging from a kimono sash or obi. Netsuke can depict human or animal figures as well as other subjects.

**Jack M. Walter**  
Baltimore, Maryland

## Europe's private wealth

["Breaking the Euro 'Doom Loop,'" Fall 2012] divides between the rich northern and the poor southern European countries, which is a misconception. Wealth per capita, that's what the term of a rich or poor country comes down to, is sizably higher in Italy than it is in Germany, and the per capita wealth in Slovakia, one of the north-of-the-Alps countries expected to send money to the south, too, is much lower than in Greece, Portugal, or Spain. Italy and Greece are examples of high private wealth, but of poor states, as the bond and trust between the government and the governed is weak. The state is considered by its citizens as an entity to take advantage of or, more brutally worded, to rip off and let others—or inflation—pay the bill. No wonder northern Europeans are reluctant to send their money to the south.

And concerning the private wealth in Italy: Don't we Bolognesi all remem-

## Facebook follies: We suggested a horoscope section, you responded ...

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You're kidding, right?

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that would be embarrassing

December 22, 2012 at 12:30pm · Like · 9

An institution of higher learning shouldn't participate in mystic tripe like horoscopes.

December 22, 2012 at 12:30pm · Like · 12

Sure, after I check my horoscope, maybe the magazine can recommend me some lucky lottery numbers and then have a few articles on homeopathy, dowsing rods and the danger of vaccines. Why not?

December 22, 2012 at 12:38pm via mobile · Like · 5

A horoscope in a perfectly even and legitimate magazine? Hell, no.

December 22, 2012 at 12:46pm · Edited · Like · 6

How about a regular feature on Creationism? How about a column by Sarah Palin on Geo Politics? Or, Michele Bachmann on American Constitutional History?

December 22, 2012 at 2:15pm · Like · 2

No. Please don't do that! It would make the legitimate sections less credible.

December 22, 2012 at 6:16pm via mobile · Like · 1

ber the unbelievably high number of fur coat ladies in the wintry streets?

**Ludwig Heuse, SAIS Bol '81 (Dipl), SAIS '82**  
Kronberg im Taunus, Germany

**The state is considered by its citizens as an entity to rip off and let others—or inflation—pay the bill.**

## Thank you

I have missed the old *Johns Hopkins Magazines* with their many thoughtful, in-depth articles, only to be delighted with your recent issue. Bret McCabe's "May It Go to the Heart" and Mat

Edelson's "Flu Scare" were both outstanding, thoughtful, in-depth articles that will stick in my consciousness for years to come. McCabe's article on the Jewish concentration camp inmates in Terezín performing Verdi's Requiem was very moving. There were other excellent articles in the same issue. I thank you for returning *Johns Hopkins Magazine* to greatness—it is greatly appreciated.

**Martin L. Pall, A&S '62**  
Portland, Oregon

## CORRECTION

"Needed Nurses" [Alumni, Spring 2012] incorrectly referred to FSIL, the Faculté des Sciences Infirmières de l'Université Episcopale d'Haiti, as Haiti's only nursing school. FSIL is the country's first baccalaureate degree-granting accredited nursing school, part of the Episcopal University of Haiti.



*Space Department at the Applied Physics Laboratory, has an idea: Ram a spacecraft into a nearby asteroid and see what happens. That could take us a step closer to better understanding how we might defend ourselves in the face of looming catastrophe.*

**How It Works**

“One of these days, almost certainly, an asteroid is going to be predicted to be able to hit Earth,” Cheng says. “What do you do? Well, let’s try to move it into a different orbit. One of the ways you could think of doing that is to crash a spaceship into it.” Cheng’s project, dubbed AIDA—Asteroid Impact and Deflection Assessment—is a joint mission with NASA/APL and the European Space Agency. It requires two crafts: the spacecraft that will crash into the asteroid and an orbiting probe to measure what happens. Cheng’s target is the smaller of a pair of asteroids, which orbits the larger one like a moon. The orbiting probe, which is ESA’s part of the mission, is scheduled to launch in August 2019 and will collect data on the asteroid before the other spacecraft slams into it in 2022. Once the collision occurs, the ESA probe will be able to measure the change in the asteroid’s orbit, and the scientists will better understand the physics of deflection. “It’s all about what the target is essentially made of, how strong it is, how porous it is—all these things we just don’t know,” Cheng says. “It’s very hard to predict the result.”

**Data**

“Earth lives in a dangerous neighborhood,” Cheng says. Astronomers estimate there are about 1,000 near-Earth asteroids larger than 1 kilometer—big enough to cause a global disaster. About 90 percent of them

# A Smashing Plan

Laura Dattaro

*Earth might feel like a pretty safe planet to call home—nestled comfortably between Venus and Mars, near enough to the sun to feel its warmth but far enough away not to get burned. But this ball we live on hurtles through space at more than 60,000 mph, and that space is peppered with thousands of rocky objects. It’s been well-documented that sometimes huge chunks of space stuff collide with our planet, demolishing the impact site, affecting global climate, and devastating populations. So, what if we discovered a large asteroid coming our way? Surprisingly little research has been done so far on that question. But Andy Cheng, chief scientist of the*

ILLUSTRATION BY MARK MCGINNIS

have been identified. Far less is known about smaller asteroids. All told, about 100 tons of extraterrestrial matter falls onto Earth every day, mostly in the form of harmless dust and an occasional meteorite. Cost caps have been set for \$150 million for NASA and 150 Euros for ESA.

### Upshot

Once the impact occurs, scientists will better understand how a collision affects the orbit of an asteroid, potentially leading to a better way to protect Earth. One of the benefits of the mission design, Cheng says, is that if either craft fails, or if ESA or NASA rescinds its commitment—which is not that uncommon for international collaborations—the remaining craft can still perform a worthwhile mission. ESA's probe would be able to collect valuable data on asteroids, and if it is never launched, the change in the asteroid's orbit after the impact of NASA's craft still could be measured from the ground, albeit less accurately than from space. Regardless of how the mission shakes out, scientists will know more about the rocky bodies that share Earth's space.

### Conclusion

Other solutions to the asteroid problem have been proposed, most notably using a nuclear bomb to deflect orbit. But, Cheng points out, there's no real way to test that. NASA conducted a mission in 2005 called Deep Impact that crashed a craft into a comet—an icy body much different from an asteroid—but its main goal was to study the composition of the comet, not its deflection after impact. AIDA will provide a better understanding of how impacts change the trajectory of an asteroid, so in the event of a real pending collision, we'll be more prepared.

Teaching and Learning are my passions.  
— Liz Jackson  
Broadmead Resident

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Fifty Books, Redux

# 1

HISTORY

## Slave Owned

David Menconi

After the Civil War, the victorious Union was surprised to discover how much property was held by Southern slaves, who had no rights yet often owned tools, livestock, clothing, and even land. The quantities were enough to prompt formation of the postbellum Southern Claims Commission to make reparations for property lost to the Union army during the war. Allowing slaves to own a few meager things of their own might seem like a form of leniency—even if whatever slaves owned was at the whim of their masters, who might appropriate it at any time and leave them with no legal recourse. But Dylan C. Penningroth cautions that such occasional displays of apparent leniency were less about humanity than self-interest.

Penningroth, A&S '96 (MA), '00 (PhD), has spent the past 20 years researching slave-owned property, going back to his graduate work at Johns Hopkins. In poring over Reconstruction-era records to fashion a cultural and social history of African-American property ownership, he arrived at a less generous conclusion about why slave owners permitted it. "From the master's perspective, maybe the biggest reason to let slaves have possessions they could think of as property was that it saved on the bottom line," Penningroth says. "The masters were responsible for feeding, clothing, and housing slaves, and something like 20 percent of a cotton plantation's output was spent on that. Letting slaves have property shifted

a lot of that burden onto the slaves themselves. So they'd work in the fields all day and into the night, come home, and work some more—making brooms, feeding pigs, growing corn, things like that. The slaves did that because it gave them a more rounded and healthful diet, which should not be underestimated since they might be given nothing more than pork fatback and moldy bread. But the masters let them do this because it was good [economically] for the slave system."

Penningroth was already interested in African-American history as related to property when he began his graduate career at Johns Hopkins, an interest that blossomed when his adviser put him on the track of the Southern Claims Commission. Property is as much a social construct as a physical object, and the idea of slaves owning property raised some peculiar legal questions with elements of squatter's rights and underground barter economies. In the years before the Civil War, Penningroth says, Southern judges had always carefully avoided using the word *property* in their rulings, instead referring to things owned by slaves as possessions.

Whatever the authorities called it, the property in question never amounted to much. "A typical award from the Southern Claims Commission might be \$150," Penningroth says. "Multiply that by a factor of about 15 to get a figure in today's dollars, and it's around \$2,250. That's not enough for a down payment on a house, say. We're talking about people working to the point of making themselves sick, and they were still among the very poorest and most destitute of all Americans. Yet they kept at it."

Penningroth's research has already yielded one book, *The Claims of Kinfolk* (University of North Carolina Press, 2003), which won the Organization of

American Historians' Avery O. Craven Award in 2004. He has continued his research while teaching legal history at the University of Virginia and at Northwestern University, expanding the time frame into the mid-20th century and using local trial court records to construct what he calls "very much a bottom-up legal history" of African-Americans. That work got a boost last year when Penningroth was one of 23 people to be awarded fellowships from the John D. and Catherine T. MacArthur Foundation. The fellowship will pay out \$500,000 over the next five years, allowing Penningroth to broaden the scope of his ambitions for his next book.

"Some people interpreted my first book as being about the beginnings of

a proto-capitalist economy among slaves," Penningroth says. "I don't see it that way, or that this slave economy pointed toward the erosion of slavery. If anything, it strengthened it. Slavery was a running battle between labor and capital, and slave-owned property was a product of the masters' interest in spending as little as possible on their slaves. Property is not an inherently liberating force in the world. I recently read this book about the developing world that said if you'd just give poor people in Haiti and Peru property rights over their slums, that would be transforming and end poverty and hunger overnight. But there's no reason to think that's true. There's no proof of the liberating potential of property."

## 2

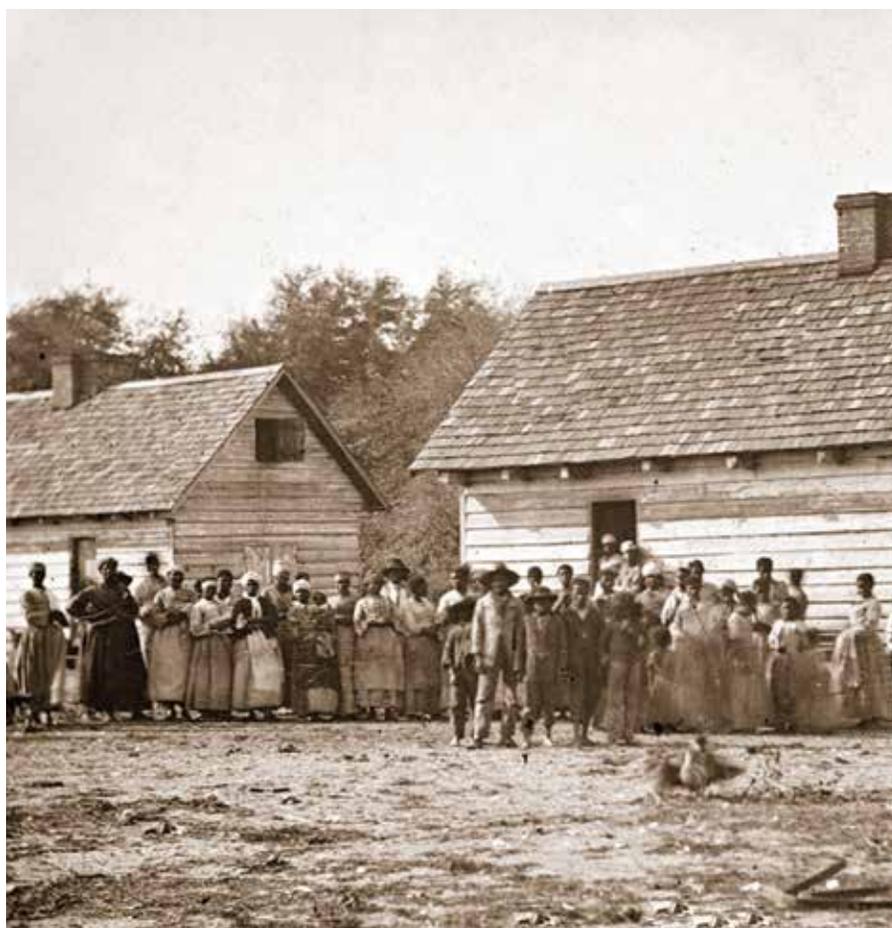
PSYCHIATRY

### Psych Secrecy

Kelly Brooks

Adam Kaplin's multiple sclerosis patients hope for less pain, increased energy, an end to depression. Fulfilling that hope requires the coordinated effort of primary care physicians, psychiatrists, physical therapists, and other health care specialists. But Kaplin, who serves as the chief psychiatric consultant to the Johns Hopkins Multiple Sclerosis and Transverse Myelitis centers, kept encountering a problem. "I had colleagues in other Johns Hopkins outpatient clinics who said, 'We'd like to see your patient reports, but we can't see what you did. We can't follow along,'" says Kaplin. The problem was that unlike other patient records, his reports were outpatient psychiatric reports, and therefore not accessible.

Kaplin suspected that keeping psych records private could adversely affect his patients' health, and his latest study confirms it. Analyzing publicly available discharge data from 13 of the top 18 U.S. hospitals as ranked by *U.S. News & World Report* in 2007, Kaplin found that within a month of discharge psychiatric patients were 40 percent less likely to require readmission to the hospital if other specialists had full access to their psychiatric electronic patient records. The implication, says Kaplin, is that patients have better outcomes when psychiatrists engage in collaborative care and hospital systems make it easy to share patient records. Yet fewer than half of the top 18 hospitals kept all psychiatric records



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stored electronically, and less than one-quarter allowed non-psychiatrists unrestricted access to them.

Why the secrecy? Three-quarters of the hospitals in his study that did not share psychiatric information maintained electronic records. So the barrier to sharing information was not insufficient technology or cost or ease of data transmission. Rather, it was all about stigma, says Kaplin, the belief that patients could be stigmatized if other doctors know they have psychiatric illnesses.

At Johns Hopkins, Kaplin found “there was just a misunderstanding where they believed that psychiatric records were verboten to be put into shared records.” Some colleagues even told him that physicians sharing psychiatric information was a form of medical malpractice, although there is nothing inherently—or legally—different between psychiatric or non-psychiatric patient confidentiality. Prior to 2009, Johns Hopkins physicians shared limited information via a computerized provider order entry system; detailed patient records were kept on paper or, at the individual physician’s discretion, stored electronically on a separate system. Accessing the detailed records, particularly mental health records such as those for Kaplin’s psychiatric consults with MS patients, “was very tough,” says clinical informatics project coordinator Kimberly Coursen-Antinone.

Hospitals do their patients a two-fold disservice by keeping psychiatric records private, or treating them as somehow different from other patient records, says Kaplin. First, problems arise when a psychiatric patient follows up with a primary care physician who, without access to hospital records, does not know which psychiatric medications to keep him on. Or, if the discharged patient ends up

in the emergency department, the ED staff, without access to hospital records, can't compare the patient's present distress with his medical history. When they don't know whether he has improved or declined since his previous hospital stay, "they're more likely to assume the patient needs to go back into the hospital," says Kaplin.

Second, a patient's physical health can be at risk when psychiatric information isn't shared. Psychiatric drugs can interact adversely with other medications prescribed by unknowing physicians. Other information can be critical as well. For example, patients who have suffered heart attacks are more likely to die within a year if they also suffer from depression; the risk factor is just as large as that of hypertension, high cholesterol, or smoking. If a psychiatrist and cardiologist share patient records, the information could save patients' lives.

At Johns Hopkins, psychiatry was the first department on the East Baltimore campus to digitize its inpatient records—and share them with other Hopkins physicians—when the electronic patient record system made its debut in 2009. And all psychiatric patient records, whether inpatient or outpatient, will get the same treatment when a new digital system, called Epic, goes live in spring 2013. It's a great example of how psychiatrists can lead the way toward destigmatizing mental health conditions, says Kaplin. "If we [psychiatrists] handle the diagnosis as somehow different from HIV or STDs or other medical conditions, if we make no effort to entrust this information to other clinicians, how do we expect them *not* to judge our patients?" he says. "It's important for us to start the discussion about stigma."

# 3

## SPACE

### Voyager: Those Models? Wrong

Dale Keiger

In the mid-1970s, an argument arose as engineers at the Jet Propulsion Laboratory were building *Voyager 1*, a spacecraft designed to fly by Jupiter and Saturn on a four-year mission to gather data from 10 onboard scientific instruments. Stamatios Krimigis wanted one of those instruments to be mechanical. He was principal investigator for the Low-Energy Charged Particle instrument, the LECP, designed to measure the flow of electrons and ions in space, and he wanted to be able to rotate it and change its angle of observation. Engineers do not like mechanical parts on a spacecraft. If the machinery sticks, then what? It is not like you can reach across millions of miles of space and tap it with a wrench. "They said, 'Oh, you're crazy,'" Krimigis recalls. "This thing is going to get stuck."

Krimigis, who has been at the Applied Physics Laboratory since 1968 and directed its Space Department from 1991 to 2004, won the argument, confident that the LECP would not stick. Thirty-five years into *Voyager's* mission, which NASA long ago extended from the original planetary flyby to an exploration of the farthest regions of the solar system, the instrument still works—still rotates, still takes measurements, still generates data that *Voyager* sends back to Earth.

And makes trouble, if you are attached to the standard computa-

tional models of the border between the sun's atmosphere and interstellar space. According to those models, the cloud of charged particles that the sun continuously blasts into space, the solar wind, forms a bubble called the heliosphere, which has a boundary. At this boundary, said the models, the flow of solar particles would encounter pressure from the flow of particles from the galaxy and the galactic magnetic field, and this would turn the solar wind "northward"—perpendicular to the plane of Earth's orbit, known as the ecliptic. Once *Voyager* had crossed the boundary, the LECP would stop detecting solar-charged particles and the sun's magnetic field and start picking up cosmic rays and the interstellar magnetic field. Neat and simple.

Until about three years ago, when *Voyager's* findings began to part company with the standard models. The models predicted a sharp boundary at which the solar wind would change direction. Instead, *Voyager* found a peculiar zone where the charged particles from the sun had lost almost all velocity, and instead of flowing in a different direction were mingling with interstellar gases. "The solar wind had stopped dead in its tracks," Krimigis says. That was not supposed to happen.

So he asked the flight controllers at the Jet Propulsion Laboratory if they could change the orientation of *Voyager* so he could position the LECP perpendicular to the ecliptic to gather new data that might explain what he was seeing. The spacecraft had been in the same orientation for more than three decades, and to move it, JPL had to call on Don Johnson, a long-retired engineer who had designed the spacecraft's command system. Johnson was delighted to work on *Voyager* again and reminded JPL how to do it. "Lo

and behold, the spacecraft did exactly what it was supposed to do, after 34 years in space,” Krimigis says. By January 2012, after several repeats of this maneuver, the LECP had confirmed there was no flow of charged particles, and no northward deflection. Puzzling.

Three months after the findings had been reported in *Nature*, the spacecraft found that galactic cosmic rays had jumped 5 percent in intensity. In mid-July, the intensity jumped again and the pressure of the solar wind dropped fivefold. This had been predicted, more or less. But five days later, the changes reversed: cosmic rays down, solar wind up. Says Krimigis, “We knew something brand new was happening.” The scientists had been processing *Voyager* data on a weekly basis. Now they started processing daily. In August, cosmic rays suddenly increased in intensity by 10 percent, and solar particles plummeted a thousandfold, essentially disappearing. Aha, Krimigis thought, *Voyager* has finally crossed the boundary into interstellar space. “Then the people who measure the magnetic field came in and said, ‘But look, the direction of the magnetic field didn’t change a whole lot.’” Instead of deflecting northward as predicted, the sun’s magnetic field appeared to continue in its usual direction, and what’s more, become 10 times stronger. That did not make sense in the context of the standard models, but there it was—the LECP, Krimigis’ dependable little machine, had found something no one expected.

Krimigis and his colleagues now think that *Voyager* may have discovered a previously unsuspected region of space in which the sun’s magnetic field does not change direction but links with the interstellar magnetic field to create a sort of magnetic

highway; along this highway, solar charged particles stream out and cosmic rays stream in. Another possibility is that what everyone thought about the behavior of the galactic magnetic field has been wrong all along. Krimigis points out that because the field had never been measured directly, computational models may have been built with the wrong numbers. “You think you know what’s going to happen,” Krimigis says, “and then it doesn’t.”

As for the prediction that his movable LECP would stick, that has not happened either. Krimigis estimates that by this point, it has moved through 6 million mechanical steps, even though it had been tested only to 500,000. Built to last, like its principal investigator, who is 74 years old and excited every day by what *Voyager* is finding. “I am absolutely delighted to have lived long enough to see this.”

## 4

### PUBLIC HEALTH

## Things a Puppet Can Talk About

**Bret McCabe**

As a medical humanities undergraduate at Northwestern University, Maya Nadison combined her love of theater arts with an interest in public health to create an anti-bullying puppet show. She took the show to Tokyo when she studied Bunraku puppetry at the National Theatre of Japan. Now a fourth-year doctoral candidate in the Bloomberg School of Public Health’s Department of Mental Health, she has fashioned a sexual abuse awareness

intervention for Baltimore City schools that also uses puppets.

“One of the reasons why I came [to Johns Hopkins] is because I want to use theater for child health promotion,” Nadison says, reaching into her bag and taking out a large flying insect puppet that she designed and fabricated. The wings are hand-painted foam, the legs television cable she stripped and coated in liquid rubber.

She has created 15 insects, as well as a narrative framework, for a project that uses fun facts about the insect world to talk about sexual abuse and personal safety. Consider the firefly, which uses bioluminescence to light up. Males do this when they are ready to mate. “What’s even more interesting is that when the female agrees to the mating, she also lights up,” Nadison says. “So [the firefly puppet] leads to a discussion about consensual sex.” Or consider the Madagascar hissing cockroach. “It doesn’t have wings to fly away,” she says. “But when it feels attacked it produces a loud hissing sound. So that’s all about if you can’t escape a situation, there are ways to make yourself heard.” She describes the project as a mix of educational theater, child health, and clinical work. “The animal world and anthropomorphism are very powerful tools when talking about these topics because the child can remove himself from what really happened.”

The need for sexual abuse interventions is there. Abuse services centers estimate that one in four girls and one in six boys will be sexually abused by the time they are 18. About 95 percent of victims know their abusers. Only about 10 percent of these incidents are reported. The statistics represent what researchers can determine from current data,



Maya Nadison uses her handmade puppets to help children talk about abuse.

which come from reports from law enforcement, social services, and hospitals of events that required response, plus additional figures from adults reporting past experiences. Other than some general risk factors—among others, being a girl (though boys are sexually abused as well), being a preadolescent or early adolescent, having a stepfather—predictors have been hard to identify. Incidence of childhood sexual abuse stretches across class and ethnicity.

When the data on abuse are this diffuse, determining how best to measure prevention strategies presents its own challenges. Nadison has witnessed firsthand how well some students respond to her puppets. But to demonstrate how effective her projects are, she needs to develop a way to evaluate them—the persistent conundrum of arts-based interven-

tions. “Evaluation is important, and I’m having trouble with that,” Nadison admits. The nature of the abuse compounds her difficulty. “Yes, theoretically it would be nice to have a survey,” Nadison says, citing one common evaluative instrument. “But you’re talking about sexual abuse. It’s not as if you’re talking about a nutrition program and you ask kids how many carrots they ate.”

Her research grants, from Johns Hopkins’ Urban Health Institute and the Albert Schweitzer Fellowship, fund her current partnership with the Baltimore Child Abuse Center, through which she works with middle school students to stage a show about personal safety that includes sexual abuse awareness. Nadison brings her sewing machine and puppetry materials to the school, and, paired with a social worker, she helps 12 stu-

dents make characters and develop a storyline.

Eventually, she envisions a children’s book and an accompanying puppetry performance that can be taken into schools as a platform for discussion. Turning those experiences into evidence-based research that can be acted upon isn’t easy, though. Childhood sexual abuse is devastating, and the human desire to help in any way possible can conflict with the rational mind’s efforts to systemically develop the best practices. “Through the Child Abuse Center I’ve heard a 3-year-old talk about her uncle abusing her and she didn’t even know her body parts,” Nadison says. “So I have to keep my expectations realistic. Maybe some of these kids who were abused didn’t go tell anybody. And if the project inspires them to go tell somebody, maybe they’ll get the help they need.”



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# 5

NURSING

## Tuning Out Pain

**Kristen Intlekofer**

Diana Meyer, as a veteran nurse, has seen plenty of pain. Pain, or at least discomfort, is nearly universal among hospital patients. Yet it remains difficult to treat. Pain is subjective, and that’s the big problem, says Meyer. “For your broken leg, you may say your pain is an 8 [on a scale of 10], even with medication. And I may say, really? My pain’s a 2,” she says. Studies have shown that the most common pain treatment—medication—is effective for less than 40 percent of patients. Adding to the problem is the fact that many strong pain medications, such as opioids, can put patients at risk of being oversedated, possibly causing their breathing to slow to unsafe rates or stop altogether. “Getting to no pain, in many instances, is actually too dangerous for the patient,” Meyer says.

If more meds aren’t the answer, what is?

While studying for her doctorate at Johns Hopkins last year, Meyer, Nurs ’12 (DNP), decided to try a different approach. Tasked with reviewing patient satisfaction surveys at the community hospital where she worked,

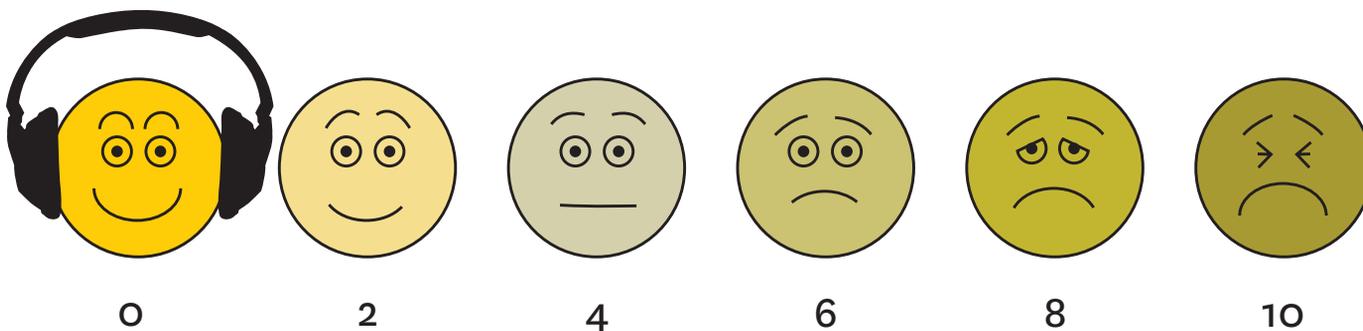
she found that the hospital had received low marks when it came to pain management. Just two-thirds of patients felt the staff had done everything they could to alleviate their pain; less than half reported that they were satisfied with their pain relief. Working as a clinical nurse specialist at the time, she says, “I really saw that as a reflection of what the nurses—independent of physician orders—could be doing for patients. And that’s what led me to think about complementary therapies that would be completely within the nurses’ autonomous practice, to implement without a physician order, that may help the patient experience more comfort.”

Looking for an affordable solution, and one that would be manageable for nurses to incorporate into their other duties, Meyer settled on music, long recognized as a complementary therapy. Even Florence Nightingale made reference to the therapeutic effects of music, in her 1860 *Notes on Nursing*, writing that “wind instruments, including the human voice, and stringed instruments, capable of continuous sound, have generally a beneficent effect” on the sick. Although research is divided on whether music actually reduces pain, Meyer says, certain genres of music have been shown to lower blood pressure, heart rate, and respiratory rate, which Meyer hoped would also

induce comfort and improve feelings of well-being for patients. She provided individual CD players and headphones for patients, and had nurses encourage their use when patients received medication or when they simply felt uncomfortable.

The results surprised Meyer. One hundred percent of the patients in the group who had listened to music reported that they were either “satisfied” or “very satisfied” with the hospital’s pain management efforts. And 87 percent of patients in the music intervention group felt their pain care was complete, compared to only 52 percent of patients who did not listen to music. Another benefit of the project, Meyer says, is that the nurses who participated indicated that they would be much more likely to use this kind of therapy in the future, after seeing evidence that it worked and that it wouldn’t take them away from their other duties and responsibilities.

“There are very elegant but simple ways to improve the patient’s experience,” says Meyer, who now works as a director of nursing practice at the Center for Nursing Evidence-Based Practice, Research, and Innovation in Boise, Idaho. “And this was the presence of nurses, their encouragement to use the simple intervention of listening to music. Just a little extra, and that was the impact, at least in a small group of patients—none of them felt dissatisfied with their pain care.”



# 6

ENERGY

## Good News, With a Catch

Kelly Brooks

Based on what is known about current energy prices, technology, regulations, and consumer and corporate behavior, the U.S. government’s annual energy outlook predicts the price of electricity should not change much over the next 27 years.

Well, that’s a relief.

That forecast is predicated on the world not changing much in unforeseen ways, and no big global energy shocks over the next 27 years.

Well, that tempers the relief, doesn’t it?

Each year, the U.S. Energy Information Administration, a statistical agency housed in the Department of Energy, issues *AEO*, the *Annual Energy Outlook*, which is pretty much what it sounds like, the government’s annual projections of the U.S. energy economy. EIA administrator Adam Sieminski presented *AEO2013* at the Paul H. Nitze School of Advanced International Studies last December, which afforded the opportunity to talk about what it all means with David Jhirad, the director of SAIS’ Energy, Resources, and Environment Program.

From Jhirad’s viewpoint, the report indicates the United States will become less reliant on imported energy resources as domestic production—particularly oil, natural gas, and renewable power—increases faster than domestic consumption. *AEO2013* predicts total domestic energy use will grow by only 10 percent between now and 2040 while

the U.S. population grows by a predicted 29 percent, which means per-capita energy use will decrease. This trend will be assisted by recently enacted efficiency standards for cars and light trucks (from 32.6 miles per gallon in 2011 to 47.3 mpg in 2025). “As vehicle efficiency increases, we’ll import less oil. Under certain assumptions, it could be as much as 1.5 million barrels of oil a day less in 2035 than in 2011,” says Jhirad. And while U.S. demand for oil falls, the country will be producing more of it: 12 million barrels per day in 2019, up from 10.4 million in 2011. Meanwhile, the proportion of consumed oil that comes from imports will drop from 45 percent to 37 percent between 2011 and 2040.

The domestic oil surge mainly comes from North Dakota, where new rock fracturing technologies have led to a boom in shale oil production and an associated waste of natural gas called “flaring.” But do not think this means that U.S. oil prices will decline, says Jhirad. “Oil is a globally traded commodity, so apart from job creation in North Dakota due to the oil boom, the average consumer won’t see any impact on oil prices unless there are some international forces at work as well.”

Production should increase not only in oil but in natural gas and renewable energy as well, says the EIA. Natural gas production will burgeon by about 45 percent between now and 2040, which puts the country on schedule to become a net exporter by 2020. Because gas is traded regionally rather than globally, a glut in the U.S. gas supply means lower prices in the future. “It’s cheap gas that will keep prices for electricity, for heating costs, down for consumers,” explains Jhirad. “It also allows the U.S. manufacturing industry to be more competitive.”

As for renewables, the share of electricity generated from sources

such as hydro, wind, biomass, solar, geothermal, and waste will grow from 13 percent in 2011 to 16 percent by 2040. Though the change may seem modest, the use of these renewables is growing faster than that of fossil fuels.

The EIA’s forecast is a useful baseline, says Jhirad—assuming that the world remains much as it is, with the same technologies, economic forces, and government regulations. “The model assumes a continuation of today’s policies with no shocks and surprises,” he says. After a meaningful pause, he points to 2011’s disaster in Fukushima, Japan, when a tsunami smashed a nuclear power plant, and the subsequent shutdowns of nuclear power plants in Germany. “The world energy system has always been subject to unpleasant shocks and surprises.”

# 7

CULINARY ENGINEERING

## Toast Perfected

Greg Rienzi

Since last August, a man-made robotic rover the size of a small SUV and outfitted with more gadgets than a Food Network test kitchen has been traversing Mars to assess the planet’s climate and geology, and ascertain whether the place ever offered favorable environmental conditions for life. It has sent back streams of data and one stunning photo image after another. Pretty nifty.

Now, if only humans could make a perfect piece of toast.

Louis Minsky, a senior computer science major in the Whiting School of Engineering, and classmates Patrick Luckett and Noah Greenbaum recently



PHOTOGRAPH BY JIRI HERA

set out to solve this gastronomic problem. They were students in Noah Cowan's Robot Sensors and Actuators class this past fall. Cowan, an associate professor of mechanical engineering, had challenged his class to design, build, and test cooking-related devices. They had to use sensors, actuators, a quantitative display, and fundamentals learned in the classroom to create capstone projects. Minsky, like the rest of us, has been on the wrong side of some black, bound-for-the-wastebin slices, so a better toaster became his capstone.

Before they got into the lab, Cowan's class visited Waterfront Kitchen in Fells Point and met with the restaurant's consulting chef, Jerry Pellegrino, a onetime biophysics

doctoral candidate at Johns Hopkins. (He was only a dissertation away from earning his PhD when a culinary career beckoned.) Pellegrino focused his talk on molecular gastronomy, the study of the physical and chemical processes that occur while cooking. "Cooking is all science," he says. "It's reactions, controlling temperatures, and precise measurements."

For their capstone, several students opted for technology used for slow cooking vacuum-sealed food in a water bath, a method called *sous vide* (French for "under vacuum"). In a *sous vide* device, a heating element and circulator pump evenly heat the water, and sensors measure the cooking process so that a tiny built-in computer system can maintain the desired temperature

for hours. Some students focused on making *sous vide* burgers. Others bagged and cooked sweet potato fries, apples, and chocolate and marshmallows for s'mores.

Minsky concentrated on toast, which turns out to be tricky. Blame it on browning. "Browning is a positive feedback process that is actually exquisitely sensitive," he says. "As the toast becomes brown, or darker, it starts to absorb much more infrared radiation from the heating elements, thereby quickening the heating process, causing it to brown faster and faster." A few extra seconds or degrees of heat, he says, can make or break a piece of toast. The perfect amount of browning is essential, Cowan says, to achieve the Maillard reaction—the chemical reaction between an amino acid and a reducing sugar that in bread's case leaves a brown color.

Some researchers in the United Kingdom already had uncovered, or so they claimed, the recipe for perfect toast: heat at 154 degrees for 216 seconds. Using this as a base, Minsky and his team went to work tricking out an off-the-shelf toaster oven. They inserted a precision thermometer and connected it via relay to a controller that managed the heating process. The students then programmed the controller to maintain a constant temperature for the precise desired amount of time. The controller turned the heating element on and off if the interior conditions went above or below the specified temperature.

The results, Minsky says, were delicious. "It was shockingly good. We thought the first slice might have been a fluke, but we used two whole loaves of bread and every piece we made was light and golden brown, just the perfect amount of crispiness."

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# 8

LITERATURE

## Fifty Books, Redux

David Dudley

Kevin Smokler likes books, devouring them the way the rest of us might polish off a bag of Cheetos. He possesses, he says, “a ravenous appetite for culture.” And he’s determined to spread it around.

Smokler, A&S ’95, is a San Francisco writer and speaker who specializes in a kind of cultural cheerleading, encouraging bookishness in a media environment that can seem increasingly hostile to the charms of the printed word. In 2005 he edited a collection of essays from young writers titled *Bookmark Now: Writing in Unreaderly Times* (Basic Books). His new book, *Practical Classics: 50 Reasons to Reread 50 Books You Haven’t Touched Since High School* (Prometheus Books, 2013), argues that adult readers should dust off the paperbacks of their misspent youths and make room again for the likes of Huckleberry Finn, Atticus Finch, and Holden Caulfield.

The idea, he says, is to rescue these literary masterworks from the prison of hormone-addled high school-age readers. He wants to remove the “shiver of cultural coercion” that often ruins the experience of reading them the first time. “Great books,” he declares in the introduction, “derive their greatness by speaking to us at the formative moments of our lives. We probably haven’t had enough of those moments as teenagers to see them this way.”

The project was inspired in part by such read-these-before-you-die lists as Clifton Fadiman’s *The Lifetime Reading Plan* and Harold Bloom’s *The Western*

*Canon*, earnest tomes that were emblematic of a certain strain of postwar middle-class intellectual striving—"a time when reading great books was considered part of what it meant to live a good American life," Smokler says. But both, he thought, were in need of a digital-age reboot to embrace a more diverse—and more distracted—audience. "I thought, wouldn't it be cool to update this idea for the 21st century? Given how busy we all are, is there some reason to read great books besides being able to bow down before them and say, 'Aren't these great books?'"

So, over a 10-month binge, Smokler resolved to gather up and revisit the most-assigned works of literature, to see what they had to say to his 38-year-old self. In 50 brief essays, Smokler explores how chestnuts like *Pride and Prejudice* and *Candide* offer insights into adult emotions—disappointment, regret, nostalgia—that are likely to be lost on adolescents grimly plowing through the pages on the bus to field hockey practice or doodling in the margins during study hall. Until you've logged some years in a cubicle you're probably going to miss the sublime workplace absurdism of Herman Melville's *Bartleby, the Scrivener*, for example. And as a teen reader, Smokler never caught the current of grief and loss running through *The Catcher in the Rye*, or the fact that *The Great Gatsby* was written in the past tense, a eulogy to a Jazz Age that had already vanished when F. Scott Fitzgerald began writing.

Smokler was a Writing Seminars major at Johns Hopkins, and he later toyed with an academic career in graduate school at the University of Texas. But *Practical Classics* is more undergraduate bull session than formal criticism; he riffs on comic books and movies, breezes through Wikipedia-aided plot synopses and

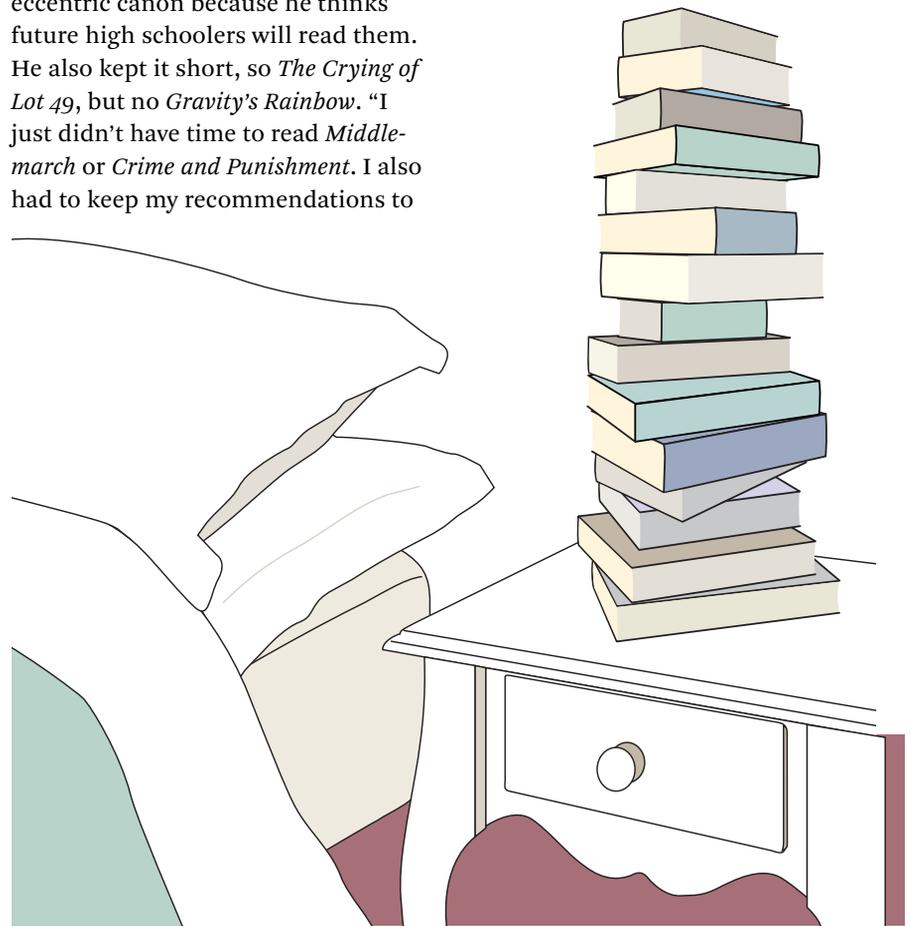
author bios, and generally comes across as a garrulous study partner, not a literary scholar. "That's not the kind of dialogue I have with my readers," he says. "I like to be the host at the party, not the expert."

To keep the party moving, Smokler followed a few basic rules. He solicited suggestions for titles both older and more recent than those assigned during his own Michigan prep school experience (Class of 1991, Greenhills School) because he didn't want the book to be a "time capsule of the George Bush Sr. years in America." Newer nonfiction writers like David Foster Wallace and Randy Shilts (whose *And the Band Played On* was a life-changing influence on Smokler as a Johns Hopkins undergrad) join this eccentric canon because he thinks future high schoolers will read them. He also kept it short, so *The Crying of Lot 49*, but no *Gravity's Rainbow*. "I just didn't have time to read *Middlemarch* or *Crime and Punishment*. I also had to keep my recommendations to

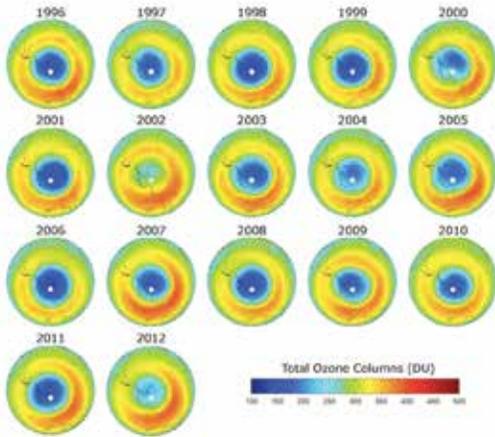
books that had to be enjoyable to read. That eliminated a good number of contenders right off the bat."

Only one book seemed to have gained no virtues in the intervening decades: Nathaniel Hawthorne's *The Scarlet Letter*. Smokler declares it "a fussy, airless, boiled cabbage of a book, light on plot and heavy on community values that were already moldy when Hawthorne wrote about them." Still, he grits his teeth and manages a reluctant endorsement: Read it because it reminds you that, like anything worth doing, the act of reading isn't always fun and easy.

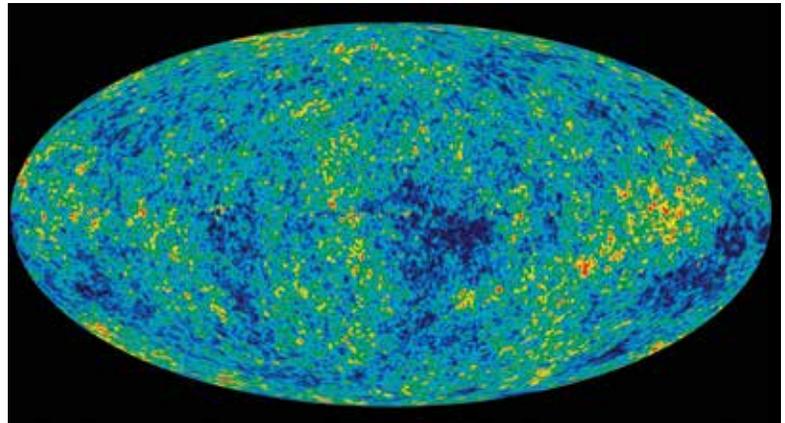
"It's hard to argue that something that's persisted hasn't beaten the odds, so it deserves our attention," he says. "That's a triumph of something."



Uh-oh: Satellite measurements of Antarctic ozone hole.



Baby picture: Temperature fluctuations in the universe 13.77 billion years ago.



LEFT: BRNA/ASB/ESA  
RIGHT: WMAP SCIENCE TEAM, NASA

**By Dale Keiger**

For more information on these Johns Hopkins research findings, go to [hub.jhu.edu/magazine](http://hub.jhu.edu/magazine).

**NO FUN GETTING OLD**

Chronically ill older patients who received a proactive form of managed primary care known as Guided Care required 29 percent fewer home health care visits, 13 percent fewer hospital readmissions, and 26 percent fewer days in skilled nursing facilities. Guided Care teams include a nurse, two to five physicians, and office staff who create a comprehensive care plan and manage patients' participation.

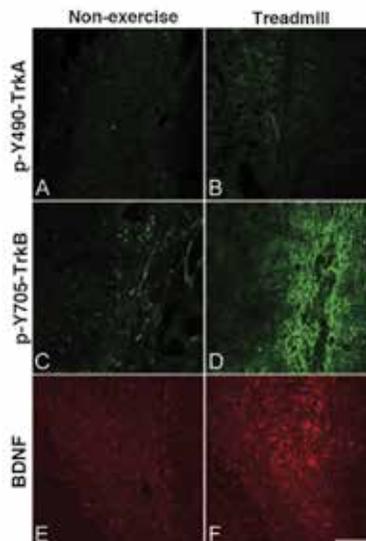
Older people with hearing loss are more likely to suffer declines in cognitive ability and memory. A six-year study of elderly hearing-impaired volunteers found that they suffered a 30 to 40 percent faster decline in cognitive skills compared to older people without hearing loss. Possible explanations include the social isolation that can accompany hearing problems, diversion of energy in the brain from cognition to processing sound, or damage to the brain that underlies both hearing and cognitive impairments.

**FAINT HERE, THIN THERE**

Scientists released the final results of nine years of observations by the Wilkinson Microwave Anisotropy Probe spacecraft, better known as WMAP, which mapped the faint afterglow of the universe's creation 13.77 billion years ago. This "baby picture" of the universe has allowed cosmologists to be 68,000 times more precise in the measurement of such things as the age of the universe and the density of its atoms.

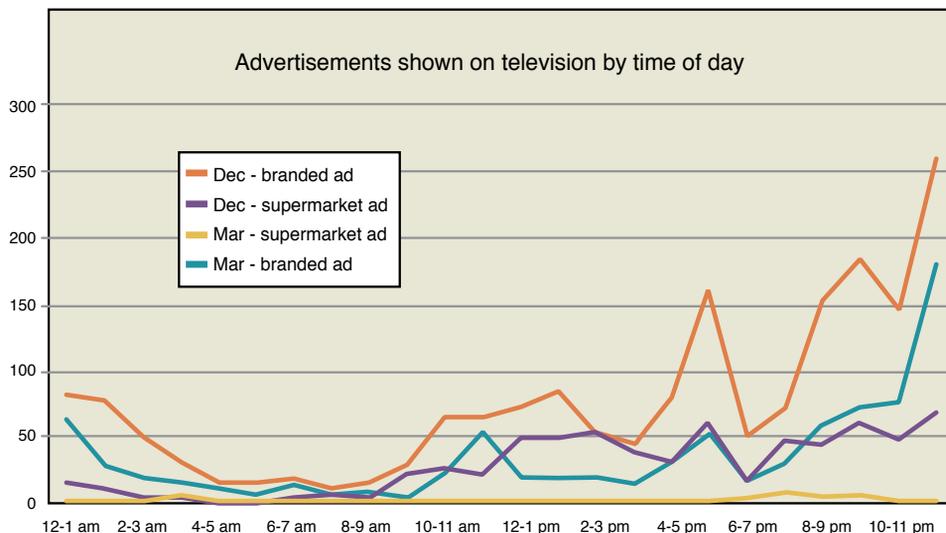
The thinning of the ozone atmospheric layer over Antarctica has changed the rate at which surface water mixes with deep water in the southern oceans, according to a team of earth scientists. The seas around the Antarctic are important for the uptake of heat and carbon dioxide, so any significant change in ocean circulation impacts CO2 levels in the atmosphere, which in turn affects global climate change.

Stroke: Exercise improved mice brains after strokes.



RIGHT: ALCOHOLRESEARCHUK.ORG  
LEFT: JIE CHEN, JIE QIN, QIAN SU, ZHIXUE LIU, JIAN YANG

Booze: Alcohol ads on television when kids are watching.



### PROGRESS ON STROKES AND CANCER

Mice physically debilitated by strokes recover if they quickly receive conditioning that rewires their brains. Neurology researchers found that physical training within 48 hours of the stroke results in the medial premotor cortex of a mouse’s brain taking over functions of the stroke-damaged primary motor cortex.

Genomic analysis of metastatic prostate cancers in 13 deceased patients has found consistent epigenetic “signatures” across all tumors in each of those patients. Physicians eventually may be able to use these biomarkers for better early identification of aggressive cancers and new therapies.

### CLINICALLY CLEANER

Critically ill children bathed in a common antibacterial cleanser called chlorhexidine gluconate had a 36 percent lower risk of dangerous bloodstream infections

versus a control group given ordinary soap-and-water baths. The study monitored children in 10 pediatric intensive care units in five U.S. hospitals.

Hydrogen peroxide vapor, dispensed in hospital rooms by robotic devices, reduced by 64 percent the number of patients contaminated by the most common drug-resistant pathogens. The vapor reduced the chances of being colonized by vancomycin-resistant enterococci (VRE), one of the most aggressive and hard-to-treat types of resistant bacteria, by 80 percent.

### WRONG, AND WRONG AGAIN

Researchers learned that a widely accepted model of long-term memory formation is wrong. According to the prevailing theory, a single enzyme called PKMzeta was key to strengthening connections between the brain’s synapses that are essential to memory. But when neuroscientists experimented on mice

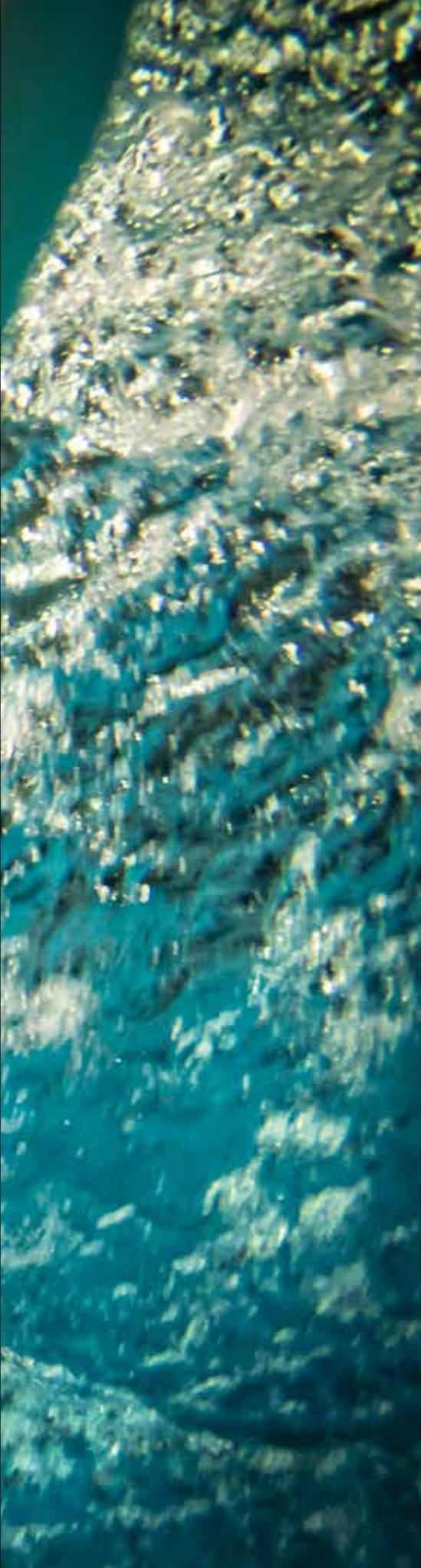
without PKMzeta, they found the experiments’ effects on the brains of those mice could not be distinguished from the effects on the brains of normal mice.

In 2009, regulators in the Netherlands tried to reduce the exposure of children to liquor advertising by prohibiting ads from appearing on television between 6 a.m. and 9 p.m. A new study found the prohibition actually *increased* exposure to the ads among youth aged 12 to 20 because it pushed liquor advertising to late in the evening, when teenagers do most of their viewing.

### AND SPEAKING OF WRONG . . .

A rigorous analysis of malpractice claims revealed that between 1990 and 2010, U.S. surgeons made serious mistakes—performed the wrong procedure, operated on the wrong body site, left a foreign object inside a patient—on average 4,000 times a year.





# Head First

**George Kennedy trains swimmers' bodies. But to really help them go fast, he trains their minds.**

**m**

idafternoon, mid-December at the Johns Hopkins varsity pool and George Kennedy Jr. watches a swimmer cleave the water of Lane 1.

Kennedy is head coach of the men's and women's swim teams at Hopkins. The swimmer is Taylor Kitayama, a 5-foot-3 powerhouse sprinter who has won Kennedy's respect and affection by coming to the pool every day with purpose and focus on every detail of the day's workout. That focus has paid off. At this point in the 2012–13 season, she has swum the 100- and 200-yard backstroke and 100-yard butterfly faster than anyone else on the women's team. At a November meet alliteratively named the Gettysburg Final Fall Fast Festival, Kitayama set five pool records. As a sophomore at last year's NCAA national championships, she placed eighth in the 100 back and ninth

Dale Keiger | PHOTOGRAPHY Christopher Myers

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**“The emotional part might be the most important thing. If someone really thinks they’re going to go fast, 90 percent of the time they will.”**

George Kennedy

in the 200 back. Her first two years on the team, she was All-American, and she has already qualified for this year’s NCAA nationals.

Kennedy watches her complete a lap of the pool, make the turn, and resume her stroke with grace and precision and power—“she moves a lot of water” in the coach’s parlance. He nods his head toward me and then toward the pool and rises on his toes, arms stretched overhead, to make a point. “A really good swimmer looks connected from fingertips to toes,” he says, and that well describes Kitayama. Aquatic verbs and adjectives apply: She flows through the water with a fluid stroke and though her arms and legs generate tremendous power there is a liquid quality to her limbs. Fast swimmers are compared to dolphins for good reason.

Though dolphins do not have to think to swim fast. Humans do. During a race, thinking most likely will ruin any chance of winning. But in training, there is much to think about. Off the starting block are you entering the water at the optimal angle and sliding through the smallest possible hole? Is your stroke efficient or are you beginning to spin your arms faster with no gain in speed? Is your shoulder rotation proper? What is the position of your hand as you pull back through the water? Are you breathing into the turn or right out of the turn? The former will slow you down. Does your kick take advantage of your flexible ankles and hyperextended knees, if you have been blessed with both?

As he paces the pool deck Kennedy keeps an eye on the other swimmers, too. They are in the water for their second workout of the day. The first had taken place at 6:30 in the morning. From time to time Kennedy calls out instructions or observations, and he has to shout to be heard over the sound of churning water and the pulsating music that pounds through a poolside loudspeaker. Kennedy is tall and lean and loose-limbed, typically dressed for work in jeans or shorts and a faded shirt. Too many hours at outdoor pools and not enough sunblock have left their mark on his scalp; he has been treated several times for skin cancer. That does not seem to bother him, but then little seems to bother him. Varsity collegiate coaching in all sports often seems populated by tense, driven, humorless men and women with clenched jaws

and glaring eyes and belligerent voices. That does not describe Kennedy, who at any hour of the day is unrelentingly cheerful and good-humored. He conveys the impression of a man who cannot think of anything he would rather do than coach swimmers, which is pretty much how he feels.

He has been coaching them at Johns Hopkins for 28 seasons. When he coaches a meet at the Hopkins pool, the score is kept on the Coach George Kennedy Scoreboard. The school named it after him in 2010. On the wall outside his cramped poolside office there is a plaque dedicated to his late father, George Kennedy Sr., “Loyal Fan of Johns Hopkins Swimming.” The plaque was given to him by his swimmers. The athletic department mounted it on the wall. Such markers of respect and esteem derive from his results in the pool. Thirty-nine of his men’s and women’s teams have finished the NCAA national championships in the top 10; 14 of those finished in the top five. He has produced 12 individual NCAA champions, and three times his men’s teams have finished second in the nation. Six times he has been NCAA Division III national coach of the year. For a month last fall, both the Hopkins men’s and women’s teams were ranked No. 1 in the country, and they have remained in the top five all season.

Kennedy’s swimmers follow detailed and color-coded training schedules that change every day and are based on continuous monitoring of the latest sports training research, what other programs are doing, and new ideas discussed on Internet swim sites and discussion boards. Kennedy and his assistant, Nikki Kett, gather data on lap times and stroke rates and race tempos, and forward those data to the swimmers. To swim fast requires strength and endurance, strong muscles and hearts and lungs. But Kennedy will tell you that what matters more is what is in the the athletes’ heads. Were he to name his method that name could be Head First. Essential to turning a talented high school kid into a fast collegiate swimmer is convincing him or her to believe in Kennedy’s method. Follow the program and listen to the coaches and you will go faster. “To me, the whole person steps up to race,” he says. “I think the emotional part might be the most important thing. If someone really thinks they’re going to go fast, 90 percent of the time they will.”



George Kennedy has been coaching Blue Jays swimmers for 28 seasons. “If you’re a student at Johns Hopkins, doing what they do,” he says, “if swimming’s not fun, a lot of them won’t want to do it.”

**n**ikki Kett is in her first year as Kennedy’s assistant coach. An All-American swimmer when she was at Kenyon College in Ohio, she now works from a closet-sized office stuffed with technology. Outside her window, the day’s practice is under way and a junior freestyler named Sarah Rinsma, who finished fourth in the 200-yard free at the 2012 NCAA nationals, is swimming in Lane 4. She is the Jays’ fastest in that event despite what Kett describes as a stroke that could be more efficient. Kett demonstrates how Rinsma’s hand enters the water in line with her head instead of in line with her shoulder. “You want to enter with a high elbow in front of your shoulder and pull

straight back,” she explains. She cues up video of Rinsma, shot underwater by a teammate who was on the bottom of the pool holding her breath. “See how her right hand sculls out every time?” Kett asks. “She’s wasting a lot of time doing that and not catching as much water as she could.” In practice when she can slow down and concentrate on her stroke, Kett says, Rinsma does better. When she moves up to race pace, the bad habit tends to creep back in.

Swimmers sign up to have teammates film their strokes or their turns or their starts, as a training aid. When they see errors, they work on them in practice. Eleanor Gardner is a senior freestyler from Bermuda who says her stroke tends to be too short, with not enough shoulder

**The trick is to so integrate what feels totally weird in practice that you can do it in a race without having to think about it. A thinking racer is a slow racer.**

rotation. The insufficient rotation in her shoulder is what shortens her stroke. On request she demonstrates: “First your elbow begins catching water as your arm enters and pulls back. Your elbow and your shoulder and your forearm and your hand all need to catch water or you will not be fast enough.” That makes it sound simple but it is not, as any of the swimmers is quick to note. Carter Gisriel is swimming his last season for Hopkins. Kennedy likes to call the 5-foot-8, 150-pound senior sprinter Pound for Pound, “because pound for pound he’s the best swimmer on the team.” Says Gisriel, “You’re swimming 6,000 yards per practice—doing something for 6,000 yards—and at the end they say, ‘You’re doing that wrong.’ As soon as you try to change it, your stroke feels totally weird.” The trick is to so integrate what feels totally weird in practice that you can do it in a race without having to think about it. A thinking racer is a slow racer.

Kett gathers data from each race meet and from practice and posts it to a Johns Hopkins swim team Google Group so the athletes can analyze it. She will time each swimmer’s stroke cycle to determine the tempo, which is the number of seconds it takes the swimmer to make a designated number of strokes (in the case of freestyle, for example, five strokes with each arm). Tempo is an important measure of efficiency. Kett shows me data from one practice that she posted for Hannah Benn, a sophomore freestyler and backstroker. As instructed by the day’s workout sheet, Benn had swum a lap at 90 percent of race pace, and another lap at 95 percent. She took 11.53 seconds to swim the 90 percent lap, but 11.69 seconds for the 95 percent lap, which meant she had swum slower when working harder, which would seem not to make sense. A second set of numbers—Benn’s tempo—tells the story of why. On the faster lap, she had taken 5.1 seconds for a cycle of five strokes; on the slower lap, 4.8 seconds. That is counterintuitive, but the thing to understand is that a faster stroke cycle is not an indication of speed, but of inefficiency, which produced Benn’s slower lap. “They don’t ever think that way,” Kett says of the swimmers. “They think, ‘If I try harder, I’ll go faster.’ It’s good for them to see the data.”

“A Hopkins swimmer really relates to anything that is scientific,” Kennedy says. There is a preponderance of rigorous technical majors on

both the men’s and women’s teams—chemical engineering, behavioral biology, neuroscience. Of the 37 varsity swimmers this year with declared majors, 31 are in either engineering or science. Gardner will be a Rhodes scholar next year. She grins and says, “We have a very smart team.” Kennedy likes to tell the story of his first encounter with their braininess, and their cockiness. The day before his first competition as head coach in 1985, an away meet at Washington and Lee University, he wanted to impress his new team with how organized he was. So he posted on the team bulletin board a detailed itinerary. “I came in the next day and the whole thing had been edited in red ink.”

**S**wimmers look ultrafit, with little discernible body fat and strikingly broad and full shoulders and upper backs. But they do not have the bulky musculature of a wrestler or football player, bodies that say *really really strong*. Nevertheless, once they start grinding through sets of presses, squats, curls, and pull-ups in a predawn workout in the varsity weight room, it is apparent how strong they are. The exertion required to maintain that strength requires a lot of calories, and Kennedy can tell stories about how much they eat. Each year the team takes a January trip to train and compete in Florida. Last year they came upon a McDonald’s that offered a special—buy one Big Mac, get another for a penny. That day, 20 swimmers consumed 119 Big Macs, stacking the boxes in a pyramid for a photo posted on Facebook. The champ was breaststroker Gideon Hou, who put away nine and a half. “Yeah,” Hou says. “It was pretty gross.”

Kennedy plugs in the music, hands out individualized weight routines, and watches them work, encouraging this one, teasing that one, asking a third if he’s feeling better than he has the last few days. That Kennedy now makes his living coaching swimmers owes something to his older sister’s collarbone. There were four Kennedy kids growing up in Moorestown, New Jersey, three girls and George Jr., and their parents had been physical education majors at Ursinus College, so the family was active. When Kennedy’s sister broke her clavicle playing tackle foot-

ball as a 6-year-old, a doctor prescribed swimming to rehabilitate the injury, which led to the Kennedy brood joining a summer swim team. Young George, age 5, loved everything about it—the water, the games, the other kids at the small-town pool. He began racing the next year and by high school was good enough to earn a spot on a varsity squad that won three state championships in his four years. He swam on some of the champion relay teams, and though he says his best times would not be good enough for him to swim for Johns Hopkins now, they were good enough then to earn a partial scholarship at the University of North Carolina. He began as a history major but switched to physical education when he got the idea of someday becoming a swim coach.

At 25, after earning a master's degree in education, he became head coach at Gettysburg College. His responsibilities included teaching several phys ed classes and managing the school's six-lane bowling alley, which was located one floor beneath the pool. "I'm the least mechanical person you would ever want to meet. The other phys ed instructors would come up to my office at the pool and say, 'Lane 4 is down.' I'd go down and act like I was fixing it. Before you knew it, there'd be four or five more lanes down. Eventually they took that part of the job away from me."

**n**o record exists of the long-ago day when someone first figured out, maybe from observing animals, that a human could move arms and legs in the water so as not to drown. But swimming appears in *The Epic of Gilgamesh*, *The Iliad*, and *Beowulf*. In 1595, Christofer Middleton noted in his book *A Short Introduction for to Learne to Swimme* that a man could swim on his back, "a gift which thee hath denied even to the watrie inhabitants of the sea," and recommended that he learn this "after he hath learned to perfectly swim to and fro on his bellie." A translation of M. Thévenot's *The Art of Swimming, Illustrated by Proper Figures with Advice for Bathing* appeared in London in 1699, and offered, "It must be acknowledged that the Art of Swimming may be of no small Importance to the greatest Personages and most elevated conditions of life."

There is also no record of the day when someone, great Personage or not, first hit on the idea that not only could you swim to and fro on bellie or back, you could race. There *is* record of a 40-yard racing exhibition in 1844 between British swimmers and a pair of North American Ojibwa Indians, in which Europe may have gotten its first look at the competitive stroke we now call freestyle. The British, who employed the breast-stroke, were unimpressed by the Indians' method, which one observer dismissed as "grotesque antics" and the April 22 edition of *The London Times* called "un-European." This may have been sour grapes because in the race, according to eyewitness accounts, the un-European Ojibwas smoked the Brits.

Racing, whenever it began, begat the need for learning how to swim faster. There is now a voluminous literature on how to train swimmers, as well as a long list of websites and uncounted YouTube videos of various techniques. The *Journal of Swimming Research* publishes articles like "Asymmetries in Swimming: Where Do They Come From?" and "The Effect of Intermittent Hypoxic Exposure Plus Sea Level Swimming Training on Anaerobic Swimming Performance." Kennedy likes to downplay his intellectual capabilities compared to the students he coaches, but he studies the sport constantly and can speak fluently about the best way to build aerobic base, or the emphasis in the last 10 years on improving the kick, and explain, "If they're taking 10 strokes per length and they're up to a really good tempo, the combination of distance-per-stroke times the stroke rate is what's going to give them velocity in the water."

Johns Hopkins swimmers learn that one constant of their coach is his willingness to try anything new that might make them faster. "I'm 57 years old, and the athletes are 18, 19, 20, so there's a natural disconnect," Kennedy says. "If we coach by doing the same stuff all the time, they'll start to question, because there are new things going on all the time." The swimmers quickly learn that nothing they do is exempt from his tinkering. Kennedy has a sort of motto: "If it's not broken, break it anyhow to go from good to great." Kitayama says this can take getting used to. "If something works, I don't want to change it, even if I know that I can be better," she says.

**Kennedy has a sort of motto: "If it's not broken, break it anyhow to go from good to great."**



“What has gotten me through all the changes is knowing that, when it comes right down to it, Coach really does know what he’s doing.”

**a**t 6:15 a.m., bleary and yawning young men and women mill at the start end of the pool, adjusting their swim caps and goggles with perhaps a little extra care because no one is eager to make that cold plunge into the water. Finally they start diving into the pool. One woman yelps when a teammate splashes her. Kennedy observes them and chuckles. “The boys always warm up on one side of the pool and the girls on the other. It’s like an eighth-grade dance.” On a Monday, he can pick out who had a long and lively weekend by how they look in the water—“lethargic, like they’ve got mono.”

Much of the time he observes in silence. He’s not much of a shouter. “I don’t have to worry too much about the women,” he says. “It’s the guys. I don’t like to yell, but I’ve learned that if I give the guys a little tough love once in a while, they tend to understand that.” Workouts are meticulously planned and if Kennedy spots the swimmers not doing something precisely right, he will make them start the sequence over, no matter how deep into it they might be. He has a knack, the swimmers say, for figuring out how best to spur each one. “He can press my buttons and know he can get away with it and make me swim faster,” Gisriel says. “Since I’ve been at Hopkins I’ve dropped 1.3 seconds in the 50, which is like four body lengths, which is absurd. In the 100 fly I’ve dropped 3 and a half seconds, which is, again, absurd. That’s unheard of. If you trust what he has planned for you, you’ll do well.

I've trusted him from day one." Says Kennedy, "Our job is to help them find a way to be successful. If we can find that, they start believing in everything they do."

On this morning, the teams are working with various pieces of apparatus. For designated laps some float on kickboards and propel themselves only by their legs, working on their kicks. Other laps they wear mesh bags that strap to their ankles and force them to work against increased drag. In one regimen, a swimmer wears a belt attached to a long elastic cord, like a bungee cord, while a teammate stands on the pool deck and holds the other end, forcing the swimmer to work against resistance as the cord stretches out. On the return lap, the teammate on deck pulls the cord in as fast as possible. The magnified speed makes even small bad habits apparent to the swimmer. "You can feel every little thing that you're doing wrong," Gisriel says.

Intercollegiate swimming is a team sport, but the goal each season is not to win all the racing meets. The goal is to qualify as many swimmers as possible for the season-ending conference and NCAA championships. Entire teams do not earn invitations to the national championship as in, say, basketball or lacrosse. Instead, individual swimmers qualify by posting race times through the season that meet the qualification standards. So regular season meets serve in effect as NCAA qualification heats and one more form of race training. (They are also fun. Racers like to race.) "The end-of-year championship planning really begins the first day of practice," Kennedy says. Twelve men and 11 women from this season's teams have made the 2013 NCAA grade, which means he expects Hopkins to make another strong showing at nationals in late March.

That means week by week the pressure builds on athletes already enduring the pressures of being Johns Hopkins undergraduates. Kennedy frequently encounters the high expectations of kids who are used to life as overachieving fast learners. "Skill acquisition means repetition and repetition and repetition and repetition," he says. "It depends on everyone's patience. Hopkins kids want to be good *yesterday*." He and Kett try to check in with each swimmer

individually at least every other day. "I'll ask, 'How you doing?'" Kennedy says. "'Oh, I'm fine.' 'OK. How you *really* doing?' And then sometimes you see the tears coming up." When he spots a kid who is starting to look physically and emotionally spent, he will pull him or her aside and grant a day off. "Sometimes I question my own sanity," Gardner says. "Why do I enjoy this so much? But I've been swimming since I was 6. I don't think I know how to live without that kind of physical release. It's really exciting to see how far you can push yourself."

As a varsity swimmer at North Carolina, Kennedy ate his meals at the athletes' training table and observed that when the Carolina football team won, the players got steak and lobster for dinner. If they lost, they came into the dining hall and found plates with a single slice of bologna and a single slice of cheese. So before that first competition at Washington and Lee 28 years ago, Kennedy told his swimmers the story and promised that if they won, he'd make sure the bus stopped for a steak dinner on the way home; if they lost, they were stopping at a deli for lunch meat. Late in the meet when it was apparent that Hopkins was going to win, Kennedy's swimmers began to chant, "We don't eat baloney, hey! We don't eat baloney, hey!" He says, "At that moment, I made the decision that this has got to be fun. If you're a student at Johns Hopkins, doing what they do, if swimming's not fun a lot of them won't want to do it."

During one of their last workouts before the holiday break, he gathers all the women together near the end of practice. He wants them to divide into teams and race each other in a set of medley relays. The winners will get to eat dinner first when the team trains in Florida. Kennedy blows his whistle and the lead swimmers dive into the water. The others shout and cheer. One by one, they swim their legs of the relay, and at the end the four members of the winning team thrust their arms in the air and dance. No medals, no trophies, no pool records, but they've got bragging rights and in a few weeks they will be first in the food line. They are young, smart, strong, and exuberant, and they believe in their coach. Life is good.

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

**"Skill acquisition means repetition and repetition and repetition and repetition. It depends on everyone's patience. Hopkins kids want to be good *yesterday*."**

George Kennedy

# NOW COMES THE HARD PART

**As amazing as face transplantations seem, doctors have long mastered the microsurgical techniques that make them possible. Now the challenge is tricking bodies into accepting their new parts.**





Andrea Appleton

ILLUSTRATIONS Brett Ryder

# NINE

years ago, an Ohio woman named Connie Culp was shot in the face by her husband. She lived, but the blast destroyed the middle of her face, including her nose, her cheeks, the roof of her mouth, and one eye. In the years that followed, doctors attempted to rebuild her face with portions of her own body: rib bones were used to recreate cheekbones, a leg bone replaced her jaw, thigh skin was transferred to her face. But even after 30 surgeries, Culp could not breathe normally, smell, taste, or reliably keep food and liquid in her mouth. And she rarely left the house. “I scared kids and everyone else,” she says. “I really did look bad.” Chad Gordon, clinical director of Johns Hopkins’ new facial transplantation program, keeps a plaster cast of Culp’s face at the time in a cardboard box on a shelf in his office. Two (closed) eyes and a cartoonish downturned mouth are its only distinguishing features. “That’s what she looked like four years later,” Gordon says, shaking his head.

Then, in 2008, Culp became the country’s first face transplant recipient. Gordon was one of the eight surgeons who,

**Ancient medical folklore is riddled with references to grafting tissues, and even replacing decapitated heads.**

over the course of a 22-hour surgery at the Cleveland Clinic, replaced 80 percent of her face with the veins, skin, nerves, muscle, and bone of a recently deceased donor. Culp's recovery was long and difficult. The drugs she takes to keep her body from rejecting the graft have numerous side effects. She had to learn to speak again, her vision is poor, and her features remain slightly distorted. But, while not perfect, the surgery transformed her life. "Sometimes people don't even know I had it done," she says. She describes a conversation she had recently at a banquet. "This couple was telling me everything that was wrong with them. They must have had 30 different things going on: back pain, headaches. When they found out who I was, they were like, 'Oh my God, I can't believe we're complaining.'"

Connie Culp's seemingly miraculous face transplant and the 23 or so others performed worldwide—not to mention the 50-some patients who've received hand or arm transplants—make for compelling stories, evoking a science fiction future. The media has largely focused on the surgeries themselves and the striking before and after images. Yet the microsurgical techniques used in the actual transplantations, while dazzling, have been used by plastic and reconstructive surgeons for decades. What *is* new for reconstructive surgeons is trying to tackle the problem of immune response. To keep the body from rejecting the graft, the patient must follow a burdensome regimen of immunosuppressive medication—for life.

The conventional trio of drugs—the same as those used by solid organ transplant recipients—carry with them a host of risks including renal failure, diabetes, hypertension, infection, and cancer. A typical patient awaiting, say, a liver transplant will happily accept these risks given the alternative. But face and hand transplants are not lifesaving procedures. Prospective patients—usually burn or trauma victims—thus must make a difficult decision: Forgo the surgery and live with their disfigurement and the disabilities that accompany it, or undergo surgery and put their overall health at not inconsequential risk.

A new face transplant team at Johns Hopkins, officially given the go-ahead in late July, is trying to build a new future for reconstructive trans-

plantation patients—one where they won't have to choose between debilitating disfigurement and a procedure with serious health consequences. The team, headed by renowned hand transplant surgeon W. P. Andrew Lee, first took shape at the University of Pittsburgh, where Lee was head of plastic surgery before coming to Johns Hopkins to chair the newly formed Department of Plastic and Reconstructive Surgery in 2010. Before coming to Hopkins, Lee and his colleagues performed five upper-extremity transplants and have spent more than 20 years researching what is known as the Pittsburgh Protocol, on both small and large animal models. It employs just one immunosuppressive drug at a low dose, in place of the conventional therapy, which calls for three immunosuppressive drugs at high doses. By infusing bone marrow stem cells from the donor into the transplant recipient, the team has found that it can essentially trick the immune system into accepting the graft, thereby avoiding the necessity for intensive immunosuppression.

Six upper-extremity transplant patients are already being treated under the protocol and doing well, though long-term prospects remain unknown. The Johns Hopkins team plans to make the new treatment available to more patients, but their overall mission is more ambitious. They seek the holy grail of transplantation, a discovery that could transform the lives of solid organ transplant recipients as well as reconstructive ones: complete immune tolerance, in which patients would require no immunosuppressive medication at all.

**T**he notion of transplanting a limb or part of the face from one person to another has excited the popular imagination for much of recorded history. Ancient medical folklore is riddled with references to grafting tissues, and even replacing decapitated heads. In the third century, Sts. Cosmas and Damian, twin brothers, were said to have grafted a new (black) leg onto a white man who'd lost his to cancer, an exploit depicted in numerous Renaissance paintings. The 1997 futuristic flick *Face/Off* served up a modern version of transplantation fantasy. But by then, the idea was not so far-fetched. In 1998,

a New Zealand man was successfully fitted with a new hand; it was removed several years later at the patient's request after he reportedly neglected to take his anti-rejection medication. (A hand transplant had been attempted previously, in Ecuador in 1964, but quickly failed due to poor immunosuppression techniques.) In 1999, Matthew Scott received a new left hand after losing his own in a fireworks accident; more than a decade later, he's had no major problems and works as a paramedic trainer. The procedure has since become more and more common, and the surgeries are becoming increasingly complex. Last December, for instance, Lee's team performed Johns Hopkins' first double-arm transplant, on an Iraq war vet and quadruple amputee.

The first face transplant, a partial procedure that replaced the nose, lips, chin, and part of the cheek of a French woman who'd been mauled by her dog, took place in 2005. Each succeeding operation has upped the ante, replacing larger and larger portions of the face with material from the donor. The most extensive procedure to date occurred in March 2012 when a Virginia gun accident victim named Richard Lee Norris received teeth, part of a tongue, and an upper and lower jaw at the University of Maryland Medical Center. He can now smile, eat, and leave his house without a mask for the first time in 15 years.

The success of these early efforts has somewhat quelled speculation that reconstructive transplantation surgeons might be violating the Hippocratic Oath, but critics remain. The risks posed by immunosuppressive medication, this argument goes, are not justified when safer options—such as prosthetics or conventional plastic surgery—exist. But reconstructive transplantation proponents argue that the safer options are, for some individuals, hardly solutions at all. “A surprisingly large number of upper-extremity amputees choose not to wear a prosthetic for a variety of reasons, from poor fitting to pain to lack of function or just doesn't like the appearance of it,” Lee says. “There is clearly a select group of patients for which hand transplantation should be strongly considered.”

Patients who have experienced severe trauma to the face have even less appealing options. Pat-

rick Byrne, director of the Division of Facial Plastic and Reconstructive Surgery and a member of the new face transplant team, says many of his patients have no need for a transplant, given the success of current treatments. But certain surgeries—for particularly massive defects, or those involving dental restoration or the eyelids or lips, can be very challenging. Even post-surgery, the best some patients can hope for is a skin flap over what had been a gaping hole, or a renewed capacity to keep saliva in their mouth. “I've realized the limitations of my ability to restore people to a normal life,” Byrne says. Over the course of his career, he has performed over 500 microvascular facial reconstructions. “Twelve years of operating on people's faces, ranging from massive deformities to people who just want to look younger, and I probably haven't been this excited about anything in my career ever,” he says.

Because these transplants are not lifesaving, the team is intensively focused on reducing or eliminating immunosuppressive medication. Simply put, it's important that a given procedure improve the life of a patient to a greater degree than it causes a negative impact. “The biggest problem is to really account for the risk-benefit balance,” Lee says. “We're using this [Pittsburgh] protocol to minimize the risk with fewer medications so we can allow more patients to enjoy the benefits of transplantation without incurring the side effects of the medications.”

Gerald Brandacher is spearheading the team's immunology research. Brandacher, whose background in solid organ transplantation is unique to the team, heads the vascularized composite allotransplantation research laboratory at Johns Hopkins, the only lab in the world whose main focus is reconstructive transplantation. Achieving complete immune tolerance will require interfering with “the fundamental evolutionary system,” he says. “If the immune system were easy to trick, humankind would not be where it is.” (One indication of its power: If a patient stops taking his immunosuppressive medication even decades after a transplant, the body will immediately begin to reject the graft.)

Because all immune cells are derived from bone marrow, the goal of the Pittsburgh Protocol is to create a situation in which, in a sense, two bone marrow systems exist in one person. The

**“If the immune system were easy to trick, humankind would not be where it is.”**

Gerald Brandacher

**With hand and face transplant patients, a region of inflamed skin can tip doctors off to a rejection episode very early in the process.**

protocol calls for infusing billions of bone marrow cells from the donor into the recipient (along with a powerful induction agent). The result is a seesaw effect between donor and recipient immune cells, in which they constantly counteract one another, with, in ideal circumstances, neither side winning out. “We have learned in basic research and translational research that the immune system is not an on/off system,” Brandacher says. “It is a constantly regulating system and by better understanding those mechanisms, we are now able to significantly reduce immunosuppression.”

The protocol does not entirely eliminate rejection episodes. In fact, Brandacher says, some level of rejection is desirable. “In these types of transplants, we want to see some sort of rejection because that means the immune system has seen its target and it tries to mount a counterresponse. It’s this response that needs to be kept in check to be able to create immune regulation.”

And those rejection episodes are much easier to track in a face or hand transplant patient than in a solid organ recipient. For the first time in the history of transplantation, surgeons are dealing with grafts that can be monitored simply by looking at them. Rejection episodes in other types of transplantation are diagnosed through blood tests or tissue biopsies, and often are not discovered until the immunological effects are long over. With hand and face transplant patients, a region of inflamed skin can tip doctors off to a rejection episode very early in the process, allowing doctors to intervene while the episode is still in its infancy. One of the ongoing projects in Brandacher’s lab may even allow surgeons to spot rejection before it is visible on the skin. Researchers are developing a piece of tape which, when placed on the skin and then pulled away, extracts proteins from underneath that indicate whether a patient is having a rejection response.

Face and hand transplant patients are unique in other ways, ways that the team hopes may spur innovation beneficial to the entire transplantation field. Solid organ transplant scientists have been researching the benefits of donor bone marrow for years, for instance, but reconstructive transplant patients may speed the pro-

cess. That is because their transplants often include a portion of the body’s bone marrow factory, a piece of bone. Thus, a face transplant that includes a portion of the jaw or a hand transplant with all of its bones contributes to immune modulation even without an extra infusion of bone marrow cells.

Long-term effects remain unknown, so Pittsburgh Protocol patients still take low doses of one anti-rejection drug, tacrolimus. But Brandacher’s lab has already achieved complete immune tolerance in large animals by combining donor bone marrow with several specific biological agents. “This is the last step before going into the clinic,” Brandacher says. The first clinical tolerance trials in humans will start in the near future, he says, certainly before the decade is out.

**J**oanie Christensen peers into an operating microscope at 50 times magnification and probes a small gray mouse splayed on its back with its nose in a tube that delivers oxygen. Christensen, a fellow in Brandacher’s lab, is transplanting a mouse limb, a feat that just a few years ago was considered impossible due to the animal’s minuscule blood vessels. The Johns Hopkins reconstructive transplant lab has devised a new method that makes it possible, if excruciatingly difficult.

Three of the mouse’s legs are carefully held down with masking tape. The fourth, a hind limb, is missing. The animal’s blood vessels, which are only about 0.2 millimeters across, are too delicate to withstand direct contact with even the special forceps in Christensen’s hand, which have superfine tips. So, with her forceps, she grips nearly invisible sutures that encircle the blood vessel she is working on, a maneuver akin to moving a noodle by lassoing it with another noodle solely employing a pair of chopsticks. She positions a vein so that it lines up with that of the detached hind limb. Ever so carefully, she slides a short polyethylene tube over the end of one vessel and proceeds to pull the ends of the vessel inside out over the tube as if folding down a tube sock. A tiny ring slides on next to hold the fold in place and the end of the second vessel slides over

the top of the whole configuration, to be secured by another tiny ring. The two vessels are now joined.

Christensen sits back and takes a breath. “No coffee, no drinks the night before, no workouts before work,” George Furtmueller, another fellow, jokes. “It’s a life-changing procedure.” Now Christensen must join the arteries, suture the muscles back together, and sew the skin in place, all the while making sure the mouse doesn’t lose too much blood. (If it loses enough to soak the tip of a cotton swab, it will not survive.) So goes an average afternoon in the reconstructive transplant lab.

“People joke that maybe the most challenging microsurgical cases in the hospital happen in our lab,” Brandacher says with a laugh. His lab developed the cuff technique for mice, whose blood vessels are too small for the standard suture method. The lab is the only one in the world with a reliable mouse model for hind limb and face transplants, both of which are technically very demanding. While the scientists also perform transplants on larger, less challenging animals like rats and pigs, developing a way to use mice has paid off. “The mouse still represents the gold standard in transplant immunology,” Brandacher says. Its immune system is most like our own, and more importantly, nearly any gene knockout or transgenic mouse imaginable is available for research purposes, allowing the lab to study very specific immune responses.

Fourteen full-time fellows, engaged in numerous research projects, work in Brandacher’s lab. At operating stations that neighbor Christensen’s, two fellows perform a rat hind limb transplant for a study examining whether stem cells must come from the donor in order to confer an immunological benefit. As part of that study, rats receive recipient stem cells, donor stem cells, or cells from an unrelated third party following the transplantation. Their immune response is then monitored following the injection. Preliminary evidence suggests that the stem cells’ origins don’t matter; this means that patients may soon no longer be restricted to the limited number of bone marrow cells available from the donor cadaver. (The data also suggest that stem cells can enhance nerve regeneration, another key problem in face



and hand transplantation, and a focus of the lab. Left to their own devices, nerves regenerate just one torturous millimeter a day.)

The field of reconstructive transplantation is so new that many questions remain. But that is also what makes it so engaging for the Johns Hopkins team. “It’s the same excitement, I think, that was there 50 years ago when the first kidney and liver transplants were performed,” Brandacher says. “Seeing that we can restore patients with missing limbs and missing faces. And I think we are on the brink of seeing major differences in how we treat transplant recipients in general, being on the verge of achieving immune tolerance. These types of transplants might help to reach this goal.” If early successes in large animal models are any indication, that goal feels tantalizingly within reach. But immune tolerance is, of course, only one piece of a very complicated puzzle. Solving all the problems inherent to face and hand transplants will require a team of specialists one would never otherwise see in one place.

**B**urn specialists, craniofacial surgeons, transplant surgeons, military doctors from Walter Reed National Military Medical Center, anaplastologists (prosthesis artists who might be called upon to recreate the face or hand of the donor for funereal purposes), dentists, nurses, speech therapists, occupational therapists, and psychiatrists are among the astonishing variety of people associated with Johns Hopkins’ new face transplant program who come together on a quarterly basis to discuss prospective patients. Unlike a solid organ transplant, every reconstructive transplant is unique, requiring specific advance planning. Donor and recipient not only must match up by blood and tissue type but also must be of the same skin color, gender, relative size, and age. And the surgical team must recreate a given defect on multiple cadavers and undergo practice runs prior to each surgery.

Those practice sessions are crucial for face transplants, where one wrong move can have serious functional as well as aesthetic repercussions. Patrick Byrne says the Johns Hopkins team has an advantage because he and his colleagues in the Division of Facial Plastic and Reconstruc-

tive Surgery concentrate exclusively on plastic surgery of the face as a matter of course. “When you look at how the public has reacted to the face transplant patients so far, there seems to be consistently a reaction of ‘Wow! That’s amazing,’” he says. “But in most of the results there’s still a little, ‘Hmm, there’s something not quite right,’ you know?” The face is the seat of both communication and emotion, and any stiffness or exaggerated movement in an area can make a transplant appear unnatural. “The difference between, say, anger and disgust is a little pull of the *levator labii superioris alaeque nasi*,” Byrne says by example, pointing to a spot near his nostril, “and that slight difference totally changes the meaning of the facial expression.”

The team is currently fielding both hand and face transplant patients; in the latter category, several possible candidates, including one wounded veteran, are under consideration. The team is already practicing on cadavers for those particular surgeries. But the relatively small number of patients with severe face and hand injuries is not the team’s primary target. “It’s obviously very catchy if you see somebody with new hands,” Brandacher says, “but that’s not where the numbers are, where the field is going.” If the team succeeds in achieving immune tolerance, it could open up the field of reconstructive transplantation to thousands of patients who are currently not candidates. These include children with congenital deformities, patients missing smaller elements that cannot be easily replaced with conventional methods—eyelids, lips, or windpipes, for instance—and cancer patients with malignant tumors who have lost parts of their face to life-saving surgical resections. This last category, a vast one, is currently a no-no for transplantation because it is too dangerous to jeopardize the immune system of a patient whose immunities are already compromised.

“This [research] is not for the rare person who needs a whole face,” Brandacher says. “Those are the pioneers, as were the renal and liver transplants 50 years ago. . . . I’m convinced that in 30 or 40 years, we’re going to look back at these early days and say, ‘That’s when we had done 15 faces and 20 hands. Can you imagine?’”

Andrea Appleton is a freelance writer based in Baltimore.

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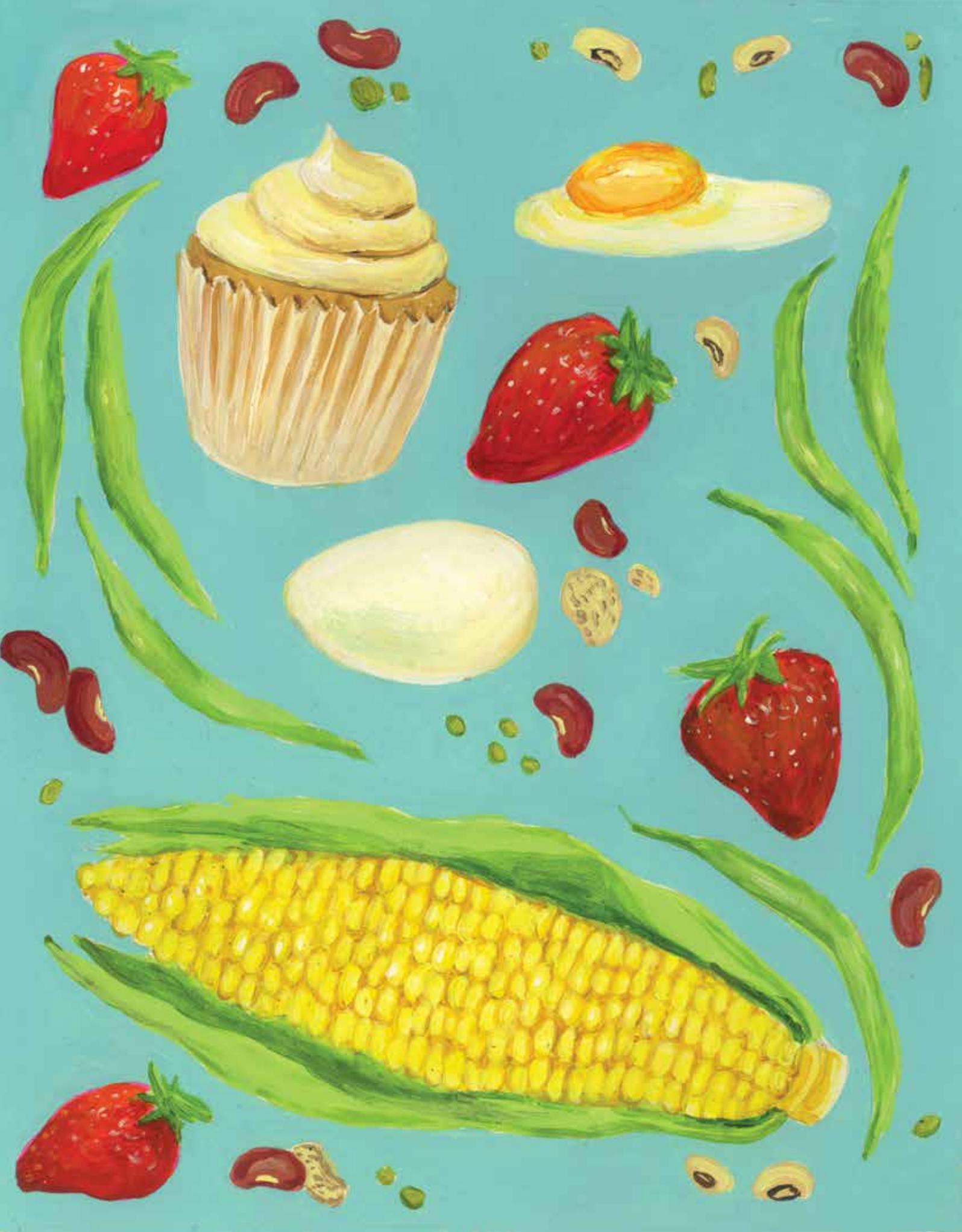
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# From Farm to Plate to Policy

**Consumers in prosperous societies are demanding healthy, sustainable foods to feed their families. To feed the world, we'll need ways to apply those practices to global food systems.**

When Robert Thompson reels off facts about the worldwide food situation, he can sound a little apocalyptic. By 2050 the global population is expected to grow by 2.6 billion people, a nearly 40 percent increase over the roughly 7 billion people who inhabit the planet today. At the same time, there is only about 10 percent more arable land available for additional farming. Food demand is going to increase exponentially as people continue to move from rural to urban areas, a migration that will also affect water availability as cities compete with farmers for resources.

“That’s the magnitude of the challenge,” says Thompson, a visiting scholar at the Paul H. Nitze School of Advanced International Studies who has spent four decades researching global agriculture. “Growing 70 percent to 80 percent more food on, at most, 10 percent more land using less water.”

The major success of the food reform movement of the past 15 years has been getting people to understand eating as a political act that straddles personal choice and public policy. Author-activists such as Michael

Bret McCabe

ILLUSTRATIONS Martha Rich

**It's going to take more than consumer changes to address the food problems facing the planet over the coming decades.**

Pollan and Eric Schlosser have explored the relationship of food manufacturing and consumption, successfully getting people to reconsider what they eat. The real revolution of farm-to-plate restaurants isn't a more delicious dining experience—it's getting diners to be mindful of *whose* farm and *whose* plate is feeding them.

Thus far the food reform movement's most visible changes have taken place at the consumer end. We try to buy local. We try to eat organic. We try to eat fewer processed, genetically modified foods. We try to get schools to provide kids healthier options. But just as digestion in the body is systemic, feeding a global population is, too. It's going to take more than consumer changes to address the food problems facing the planet over the coming decades.

Many people at Johns Hopkins—from researchers and faculty to students, staff, and other educators—are tackling current and future food crises from a variety of angles: teaching high school students to think in a systems-oriented way about the food they eat; mapping out how food makes its way around the region; working with the university to put healthy and sustainable food practices in place; linking global food shortages with big-vision issues like equity, justice, and poverty; and even growing food themselves (though that one's more for fun). What follows isn't an exhaustive account of what Johns Hopkins is doing to solve one of the world's pressing problems; instead, it's a thumbnail sketch of just a few strategies—a taste, if you will.

#### **MAPPING OUT THE PROBLEM**

In fall 2010, the Johns Hopkins Center for a Livable Future published “The Baltimore City Food Environment” study, which included a city map of supermarkets, corner stores, and convenience stores, along with neighborhood demographic data. It pinpointed where healthy food choices were and weren't available, and showed that so-called food deserts—those areas where healthy foods are scant—tended to fall in socioeconomically depressed areas with predominantly African-American residents.

The study delivered a portrait of food access, along with recommendations to improve it. But it didn't offer a broad enough picture to consider *how* to make such improvements. “We looked at

it and said, ‘OK, even if we're going to try to make recommendations to change things, we have no idea what's out there,’” says CLF's Eating for the Future program director Anne Palmer. “We have no idea where the food was coming from.”

Enter CLF's Maryland Food System Map ([mdfoodsystemmap.org](http://mdfoodsystemmap.org)), an interactive, online map that lets users plot where farms are located (subdivided into certified organic, dairy, livestock, poultry, etc.), identify where farmland is preserved, locate food processing and slaughterhouse facilities, and identify points of purchase, from supermarkets and farmers' markets to chain and carryout restaurants. It also offers overlays of health statistics (such as diabetes mortality rates) and poverty demographics.

The map is a herculean act of data collection, culling pertinent information from a variety of publicly available sources to present a baseline aggregate of the state's food situation from farm to plate. Amanda Behrens, senior program officer, explains that she and her team of researchers pulled food permits from the city health department to determine the locations of everything from restaurants to farmers' market stalls, and then coded that information for the map database.

Since digital cartography went commercial about a decade back, maps have become less top-down mandated reference materials than bottom-up tools tailored to specific users. And just as a map app can tell somebody how to get somewhere, the Food Map enables users to look at their community's individual needs.

“It's really a conversation starter,” Behrens says. “I like presenting it because it's not saying how things should be. This is where it is right now. When you're looking at it, what do you see?”

Over the past year the center has been approached by a number of local agencies seeking maps generated to suit their needs. Maryland Hunger Solutions wanted to look at Supplemental Nutrition Assistance Program usage/redemption rates and areas of need. Behrens and her colleagues are working with Future Harvest Chesapeake Alliance for Sustainable Agriculture to develop a foodshed plan for the mid-Atlantic region. They've partnered with the Southern Maryland Agricultural Development Commission to develop a better idea about

what food deserts mean in rural areas and how to map them accurately. And they're working with the Baltimore Food Policy Initiative, which approved use of the map for city programs and policy development.

That's precisely how Behrens envisioned the map's eventual purpose. To better track how food moves around, researchers need more data available to them and they need to track that data over time. The map offers a starting point for analysis but has also raised awareness among city and state agencies about what data exist, what is still needed, and how those agencies can benefit from sharing information.

Eating for the Future's long-term goal is not just to make sure everybody has access to affordable, healthy food that is produced in a way that's sustainable for individual farmers as well as the agriculture industry as a whole. They also want to offer realistic strategies to get us there. "Sometimes I get frustrated with the definitions of food deserts, especially with the [U.S. Department of Agriculture], because it's supermarket or no supermarket," Behrens says. Supermarkets are scarce in Baltimore, but the city is rife with corner stores. "We already have these infrastructures. Some of them do offer healthy foods—few and far between, but they do. How can we use what already exists? That's definitely something the city's looking at."

#### **THINK GLOBAL, SOURCE LOCAL**

For the past three years, Real Food Hopkins has prepared what it calls the 100-Mile Meal. Each fall, the group—which is the Johns Hopkins chapter of the national student-led Real Food Challenge advocacy organization—prepares food for about 100 diners with all items (save olive oil, salt, and pepper) sourced from within 100 miles of Baltimore. They invite food reform advocates and Johns Hopkins faculty to speak at a panel during the meal. Raychel Santo is a junior public health and global environmental change and sustainability double major who co-founded Real Food Hopkins her freshman year and helped launch the first 100-Mile Meal in May 2011. "We've just heard that some other universities are now using our idea and doing 100-mile meals on their own campuses," she says. "So it's cool to see that the idea's spreading."

For the past two years Real Food Hopkins has been trying to work with the Johns Hopkins Department of Housing and Dining Services to determine how much food that comes to the Homewood campus is locally sourced. "We're going through all the receipts of all the purchases and figuring out what the percentage is," Santo says. "We want to have a baseline to improve off of each year. If you're purchasing something you should have a little bit of say of where it's being purchased."

For the past decade Housing and Dining Services has aligned its dining plan with the university's broader environmental and economic vision by using cage-free eggs, antibiotic- and hormone-free milk and cream, fish and seafood sourced in accordance with the Monterey Bay Aquarium Seafood Watch guidelines, and an increasing number of locally sourced items. That's not always easy, admits Carol Mohr, associate dean of housing, residential life, and dining, who says that buying local during the dead of winter is a challenge.





But setting goals encourages food vendors to be more creative. “What’s important is that we constantly make progress,” she says. “And we’ve really challenged our vendors to tell us how they can help us get there.”

In 2007 a group of college and university presidents issued the American College and University Presidents’ Climate Commitment, a call to reduce the global emission of greenhouse gases by 80 percent by midcentury at the latest. Johns Hopkins didn’t sign the challenge, but it did partner with the food service provider Aramark to research how food service might contribute to that effort. Aramark funded an interim position in the Bloomberg School of Public Health to write a white paper about what calculators currently exist that could be used to measure carbon emissions from dining hall procurement—a way for universities to determine, for example, the

carbon footprint of X pounds of ground beef transported over Y miles by truck.

“There wasn’t a database of the life cycle analysis of enough of a variety of foods to really make it useful and meaningful,” says Leana Houser, solid waste and recycling manager for Homewood. This white paper was presented to Clean Air–Cool Planet, a nonprofit organization that develops toolkits to help universities assess their carbon footprint, which launched a pilot program working with universities and their food service vendors to begin tracking sourcing data to develop a better food calculator for campuses. Aramark and Johns Hopkins participated in that effort.

But working food into the larger environmental discussion is difficult, Houser says. While issues of greenhouse gas emission and recycling are firmly positioned as social responsibilities, eating still seems like a matter of personal choice. And responsible food sourcing can still feel financially challenging. “Some of the other [environmental choices] have an economic return on investment, and food doesn’t,” she says. “But, thankfully, I think there is a strong food movement across the hierarchy of the institution—across demographics, across faculty, staff, and students—to get there. It’s tangible.”

#### **THE BIGGER PROBLEM: POVERTY ITSELF**

Robert Thompson didn’t foresee the dramatic spike in global food prices that triggered food riots in Asia and Africa in 2007 and 2008. But looking back, he can see how a 200 percent increase in the cost of food in some areas caught governments off guard. Thompson (who grew up on a farm in upstate New York) has served as the World Bank’s director of agriculture and rural development and as the USDA’s assistant secretary for economics. For the past four decades, he has observed how farming has and hasn’t changed in accordance with population changes, economic development, and agricultural research.

In the 1980s, he says, the United States and European countries had improved industrial farming to the point where there were more surpluses than shortages. The question of food security fell off the global agenda, taking a backseat to what seemed to be more pressing concerns, such as the environment, HIV/AIDS, and

democratization. “A lot of important issues emerged, and I guess agriculture came to be seen as old and boring,” Thompson says. “It was only with the explosion in agriculture product prices in 2008—where there were food riots in three dozen countries, one head of state lost his job, and probably the price of food contributed to the Arab Spring—that agriculture started to claw its way back onto the agenda.”

As outlined at the start of this piece, global population is expected to increase 40 percent over the next 40 years, requiring global agriculture to produce about 70 percent more food on, at most, 10 percent more land using less water. To do that, says Thompson, farming in the developing world needs to improve.

Thompson emphasizes that that’s going to take a big vision—one that goes beyond investing in rural agriculture, improving adaptive agricultural research, and reducing postharvest losses. “If low-income countries are going to contribute to world food supply as well as their own national food supply, it’s going to take significant investment in infrastructure in general,” Thompson says. “It’s going to involve solving a lot of the problems in communications in rural areas. You’re going to need electrification eventually. It’s also essential to redress the imbalance in investments in education for rural and urban kids. So you’ve really got to improve social and economic mobility, and that requires at least literacy and numeracy and a reasonable level of health care.”

In short, responsibly addressing the future of agriculture means tackling poverty head-on. “Having rule of law and a reasonable level of political and macroeconomic stability, property rights, the ability to enforce contracts, is crucial,” says Thompson. “No government can create all the jobs that it’s going to take to solve the problem of poverty. But government’s role is to create the enabling environment, in legal and public policy areas, in infrastructure, investment in people, and in research—and then get out of the way and let the private sector create the jobs that will eventually solve the problem of poverty.”

#### **TODAY THE CLASSROOM, TOMORROW THE WORLD**

One of the food reform movement’s recurring concerns is that most of us are so far removed

from the farm that we’ve forgotten where our food comes from. As more and more people move into urban areas, might that collective cognitive distance get even worse?

The Center for a Livable Future’s Teaching the Food System curriculum is an effort to prevent that distance from becoming a disconnect among young people—the lucky generation that will get to contend in real time with the looming 2050 food situation. Geared toward high school and college students, the lesson plans—a collection of 11 freely downloadable and flexible modules—cover topics such as the history of food; food and animal production, processing, and distribution; the impact of diet on health; food marketing; and food security. Together, they give students a big-picture understanding of contemporary agriculture.

When developing the curriculum, CLF staff looked at existing lesson plans and found a number of garden- and kitchen-based curricula, but nothing offering a broad overview. “There wasn’t really this kind of systems-based approach where learners can navigate and explore interrelationships, like how is food related to public health,” says Brent Kim, a CLF project officer who was the lead developer on the curriculum. “The food system is a spectrum of people, activities, and resources that span seed to plate. How does it affect society? How does it affect health? How does it affect social equity? It’s not just about putting food into your mouth.”

Kim reports that, since being launched in 2012, parts of the curriculum have been picked up by faculty and staff at high schools, universities, and other organizations nationally and internationally. CLF also awarded 10 Maryland teachers grants to fund projects that grow out of the curriculum. It’s an effort to see how the curriculum plays out in the classroom.

“It’s one thing to tell kids, ‘Eat more whole fruits and vegetables,’” Kim says. “But we thought at older grade levels it’s just as important to help them understand why we make these recommendations and why we eat what we’re eating. What are those influences? Family, our peers, what’s available in our neighborhoods, income—all those things shape our relationships to what we eat. Our agenda is to empower students with the critical thinking

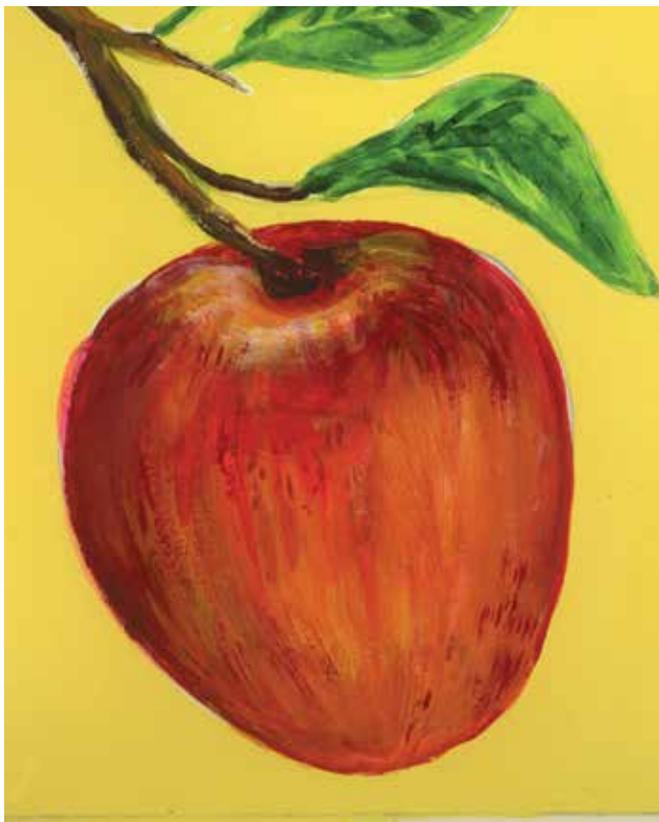
**Global population is expected to increase 40 percent over the next 40 years, requiring global agriculture to produce about 70 percent more food on 10 percent more land using less water.**

skills and the background knowledge to make their own decisions about how they want to eat, what they want to eat, and how they think we should farm.”

#### FARM TO TABLE IN JUST A FEW STEPS

When people know what they want to eat and how to farm it, who knows where that will lead them? Scott Smith found himself at home, thumbing through a mail-order gardening catalog. It was a dreary March day, and though Smith had done a little vegetable gardening before, the catalog—with page after page of bright, colorful fruit trees—seemed filled with promise. *I'm going to be a lot happier if I get going on some of this*, he thought. He ordered five blueberry bushes and five apple trees.

Fast forward 10 years and Smith, a professor in the Whiting School of Engineering's Department of Computer Science, is the proud keeper of his very own backyard orchard. He grows about 650 varieties of fruit, including apples, apricots, cherries, peaches, pears, persimmons, plums, and quinces—all on a quarter acre of land.



“My orchard is really more like my little lab,” Smith says with a wry smile. It’s a compact orchard: He prunes his trees to pedestrian height, keeping his yields low. “Because I have so many varieties and I cram them in, I don’t get big harvests. So it doesn’t end up being difficult for a family to use up the fruit.”

Listening to Smith talk, it’s not hard to understand the allure of homegrown fruit. He explains how he looks forward to his apricots ripening in July. He says that persimmons aren’t his family’s favorite when they’re fresh, but they’re delicious when dried. And his plum tree was so productive last year he was able to make jam.

But such agrarian knowledge didn’t come easily. “I’ve learned, and I try to educate people, on how difficult many fruits are to grow in the area,” Smith says. “That catalog just talked about how wonderful the taste is and how big and red these lovely apples are and all these neat things. But it said nothing about how many pests are going to come and try to eat them from you.” Smith has spent a lot of time online, connecting with people around the country and talking fruit. He has had to learn hands-on what works, and what doesn’t, through trial and error.

“I’ve learned a huge amount, just chipping away year by year at this kind of fruit, soil aspects, different kinds of bugs,” he says. “For apples, the codling moth is a difficult bug. And I know about a dozen different ways to deal with the codling moth. I know how to monitor the codling moth. I know its life cycle. I know where it winters. It’s unbelievable the amount of stuff I *now* know about a moth.”

In the process, he also learned a great deal about what he likes. He says he had no idea about the wide variety of apples that exists, and he’s become a huge fan of russet varieties, which have a dull outside covering and which aren’t typically found in stores or farmers markets. He now grows about 20 varieties. “I have big russets, small russets, sour russets, sweet russets—I love them,” he says.

“There’s one called the *pomme gris*, it’s a French apple, and it’s just really cool. It’s a sweet, nice apple and it’s got this texture like coconut. And there’s just something I really enjoy about chewing on a coconutlike apple.”

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

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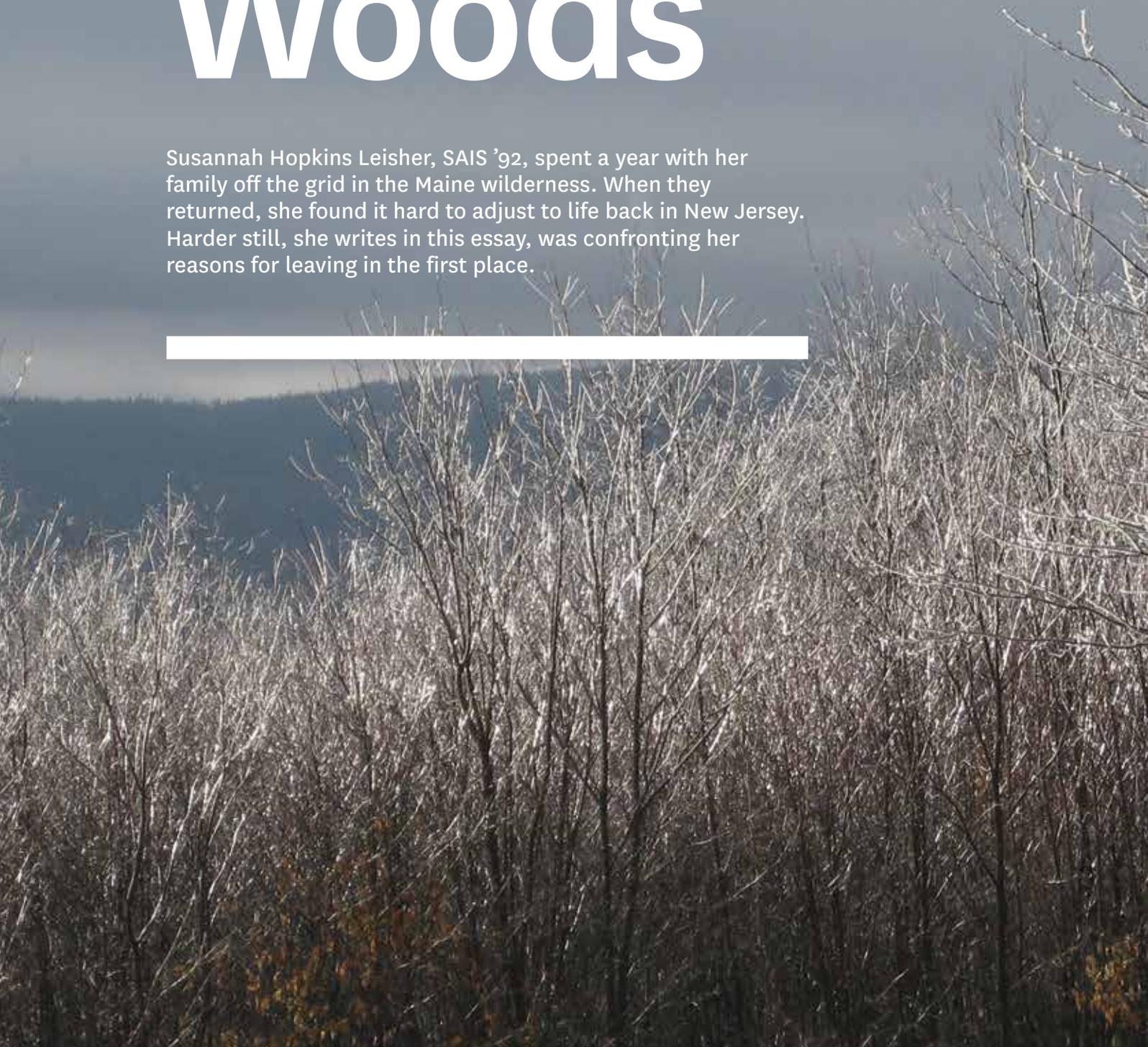
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# Out of the Woods

Susannah Hopkins Leisher, SAIS '92, spent a year with her family off the grid in the Maine wilderness. When they returned, she found it hard to adjust to life back in New Jersey. Harder still, she writes in this essay, was confronting her reasons for leaving in the first place.

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Bret McCabe | ILLUSTRATION Mark Smith

caught myself staring out the window into my backyard. It was autumn. A dozen houses crowded my view. The trees, tall, calm, watchful, seemed incidental. My journal sat at my elbow, untouched. I had a mundane afternoon ahead of me—pick the boys up from school, finish the laundry, talk to a friend, answer emails, study, supervise chores and homework, run the dishwasher at dusk.

Later that evening my youngest son, Ilem, called my attention to the sunset. I worked my way past piles of untended tasks, unfolded laundry, and undone homework to the back of the house. A flush of tangerine spread across a patch of sky framed by rooftops. I tossed it but a glance before returning to my to-do list.

We had been back in suburban New Jersey from an off-the-grid year in the Maine woods for only a few months. But it was easy to imagine the year had never happened.

The word *adventure* is engraved in my engagement ring, and my early married life lived up to that promise. After 10 years in Vietnam and three in Australia, my husband, my three sons, and I had returned to the United States in 2006. Though we had returned to unadventurous suburbia and a mortgage and the daily commute, I had what I'd always wanted—a life full of purpose, a wonderful husband and children, a home, and a meaningful job.

Yet, perversely, I wasn't happy. I felt my potential had barely been tapped. Children and work had pushed out everything else I thought I had in me. I was sure that I could/should/would do more, but I always came up short. I missed applying for a fascinating job. Let a doctoral program deadline go by. Let my dental floss run out. I advised young people who came to me for guidance to "follow their hearts" and felt two-faced. Despite all my good fortune, sometimes I burst into tears on my commute for no reason. I looked at photographs of people who had really changed their lives and criticized myself for not doing the same. My unhappiness spilled over, as it will, unfairly touching family and colleagues. I let fantasies drift into absurdity—smashing a mirror to shards, even stepping out my 12th-floor office window into nothingness. There had to be something wrong

with me. Why didn't having what I'd wanted bring me joy?

I knew some of the answer might lie in the not-too-distant past. Craig and I had found each other in our mid-30s, and since we both wanted kids we'd gotten started right away. Within three months of our wedding in 1998, I was happily expecting. The pregnancy seemed perfect. Eleven days before my son was due, however, I sensed that he had stopped moving. Sure it was just first-time-mom jitters, I nevertheless went to the hospital just to check that things were OK. They weren't. Wilder Daniel, my first child, had inexplicably died. I gave birth to him two days later, in the presence of my loving family. We had him cremated and scattered his ashes from our bare hands in the field where Craig had asked me to marry him. In the following four years I went on to have three more sons, all healthy. But I feared constantly for my kids. No one could tell me it would "all be OK." I knew better.

On the last day of March 2009 as I was trying to meditate during my evening commute home, I had a flash of insight. Pythagoras, Pasteur, da Vinci, Buddha—none of them knew their monumental destinations. They just did what called to them, what felt most right. They didn't know where they were going, yet each went in his personal right direction. Perhaps the same could be true of an average person like me. I didn't need to know where I was going. I just needed to step off the path I was on and be open to perceiving a new one. That path might even be right beside me. But as long as I was consumed by my job and burned by my first son's death, I couldn't see it. Or, perhaps I saw it, but hadn't yet decided to walk down it.

I worked hard to discern my values. There were nine, they were prioritized, and each was a single verb. The first was "Awake!" Without awareness, I knew, I could get nowhere. To wake up, I had to get rid of the static. I needed to sideline myself for a while to figure out how to spend my remaining brain cells. I had to go off life's grid.

Craig wasn't seeking the answers to fundamental questions of life, but he was always up for adventure and the particular adventure of moving to Maine for a year appealed to him greatly. We both yearned for natural beauty. He could also see how important it was for me to make a

change. Yes, there would be a downside. After crunching the numbers, we knew we'd take a significant financial hit. A more important concern was how our middle son, who is on the autism spectrum, might do with a year of very limited opportunities to practice his social skills. His support team (therapist, social worker, and psychiatrist) predicted some backsliding, but encouraged us nonetheless. Families have cultures, philosophies, and values, they reasoned, and living by them is part of what makes us a family. Going to the woods would further imbue him—and all of us—with our family's adventurous spirit and bind us even closer together.

So in July 2011, we squeezed most of our belongings into the basement of our house, piled our two cats and three sons (now 7, 9, and 11) into a minivan and a Jeep, and headed north.

**W**e spent most of the year in a 1,200-square-foot cabin on a hillside in central Maine amid 300 acres of wild land crossed by the Appalachian Trail. We were not connected to municipal services, but we did have electricity via a set of solar panels we had purchased specifically for the year. We were often asked why, if we were seeking a wilderness experience, we had decided to cart along laptops and cellphones. The answer was financial. We could not afford to spend a year with no income. The Nature Conservancy, where Craig works as a social scientist, is a very flexible employer, but it did require that he be connected.

The cabin had a sleeping loft and, most importantly for Maine, two wood stoves. We burned through nearly all seven cords of wood we had stocked the previous summer, and taught the kids how to build and tend a fire. Bringing in firewood was one of their daily chores. During the winter our two-mile-long "driveway" wasn't plowed, so we brought groceries in and trash out on a sled attached to a snowmobile. Our closest year-round neighbors lived a couple of miles away. We happily spent most days alone. The boys and I spent a lot of time on homeschooling, which included meditation and yoga along with our study of poetry, art, music, ethics, life skills, math, and English. The kids painted and sculpted, complained about too much homework, and learned

to recognize Bach. There was more than enough time for other activities: paddling, swimming, gorging on wild raspberries, tree climbing, whittling, building forts, working in the garden, skiing and sledding, and running naked in the woods in the chill of early spring. Indoors we read, played board games, daydreamed, and, yes, allowed the boys 20 minutes a day on the computer.

Most important was what I might call our "unlabeled time." There was the evening Zimri, our eldest, padded barefoot down to the dock at dusk and lowered himself to the weathered wood to gaze at sky, water, moon—not talking or doing, just being. Or the night Craig and I left the kids in the warmth of the big room and rode out to the Christmas-tree trail a mile behind the cabin, switched off the growl of the snowmobile, and sat close in the utter silence beneath a black sky spangled with stars and feathered with the dark shapes of evergreens. No one near, nothing but snow and sky and dark. Just being.

Things were not perfect. A broken leg (mine), a urinary tract infection (one of the cats'), a cantankerous toilet, underperforming solar panels and dropped conference calls, black flies and mosquitoes, and, toughest of all, the daily challenge of forging a school from a family—all colored our year as well. But those bumps in the road served more to heighten our awareness of how good the year was than to bring us down. We had surrounded ourselves with natural beauty. We had put adventure front and center.

But the joy I had found in the beauty and simplicity of the woods seemed inelastic. It didn't stretch back to New Jersey. In the woods, less seemed to be going on but I had paid more attention to it. To see the sheen of ice coating a rock set off a thousand sparks in my mind. I felt I could write a tome on a petal. Color and sound, past and future, connections between seemingly disparate things—content had positively oozed out of the world around me. Now, back in our suburban home, post-Maine felt a lot like pre-Maine.

True, there was *something* different, critically so. I'd told friends and family before we left that for me, Maine was a way to "jiggle the needle on the record of life." When I was surrounded by woods to a far horizon, I was able to open my mind to new possibilities. The realization arose

**The joy I had found in the beauty and simplicity of the woods seemed inelastic. It didn't stretch back to New Jersey.**

in me that I could meld my personal and professional lives and instead of giving way to the grief I still carried from the death of my first son, I could weave it into something whole. I decided to return to school to study epidemiology, through which I might hope to work at the nexus of poverty and stillbirth. Without the jarring step of going to Maine, I believe I could not have perceived, nor been able to step onto, this path.

Still, in New Jersey I was back to harried, multitasking, sleep-deprived, impatient. I found myself on the other side of a locked door made of glass: I could look back to that off-the-grid year but not return. Despite quitting a job, leaving a career, uprooting my family, then returning to start on a new professional direction, I was surprised, even disappointed, that things didn't feel more different.

I began to see, with some chagrin, that in Maine I had been looking for a solution to all my problems. A permanent fix. Naively, I'd expected that the drama of uprooting myself and my family for a year would wrest me out of whatever funk I'd been in. Forgetting the advice I sometimes gave to friends going through tough spots with their loved ones—people don't change their basic natures; all you can do is change your own attitude—I'd fallen prey to the expectation that Maine would change me. Maine did not do that. I was the same person in August 2012 that I'd been in June 2011. I was impatient with the kids. I got angry at my husband. I cycled through the same old highs and lows. Being on a new path wasn't enough because the old and new paths had a common denominator—me.

Accompanying my younger two sons to the local playground a few weeks ago, I had to work to calm my simmering worry over leaving my post at the computer for a couple of hours. At least the kids were happy. I zoned out—and started to listen. There was an odd scratching noise behind me. Turning to look, all I could see was an ugly trash barrel, its lid fitted over a plastic garbage bag. The sound was coming from inside it. A few exploratory bangs on the sides of the can showed that whatever was inside was both alive and frightened. I cautiously tipped the lid off the can. In an instant a squirrel sprang a yard in the air and landed in a flurry of leaves, dashing for the stream and the wild.

**T**he other day my middle son asked me to go for a walk. Not far—all we did was cross the large parking lot across the street from us, to what Kai termed “the little woods by the bridge” at the other end. It's a triangular patch of evergreens about as big as our living room, sandwiched by two of the busiest streets in our town. Commuters have worn a dirt path through it, seeking the quickest way to the train station and their jobs in the city. When I used to work in Midtown Manhattan, I welcomed this daily dose of green and brown in a sea of gray pavement.

We arrived at the little haven and almost immediately spied a downed branch, likely a casualty of Hurricane Sandy not yet cleaned up by the landscapers. At least as tall as me, the white pine orphan was elegant as a candelabra, each of its smaller brown branches ending in a downward brush of needles. “Do you want to take it home?” I asked. Kai carried it like a flag balanced on his shoulder all the way back, into the house and up the stairs. It now stands in a corner of the boys' bedroom, a comforting, familiar reminder of the woods.

I think maybe I was right when, before going off the grid, I had made that list of nine prioritized values: Awakening is the key. Against the bare palette of Maine, with so few distractions, I had finally begun to pay attention. Our year in the woods had not highlighted what was wrong with being back in the world. It had put light on what matters. The little is big. The subtle is significant.

Finding your path, learning happiness, cannot be a one-off activity, something to be done and completed in a cabin in the woods or anywhere else. It is a lifetime endeavor. Last night, Zimri and I sat on the couch together in the dark. It had been a frustrating day. Not one of the many items on my to-do list had been crossed off. More would be added in the morning. I could not resist worrying aloud. “There's so much more to *do* here than there was in the woods! I haven't even meditated since we left!”

Zimri squeezed my hand and said, “Let's meditate *now*.”

So we did.

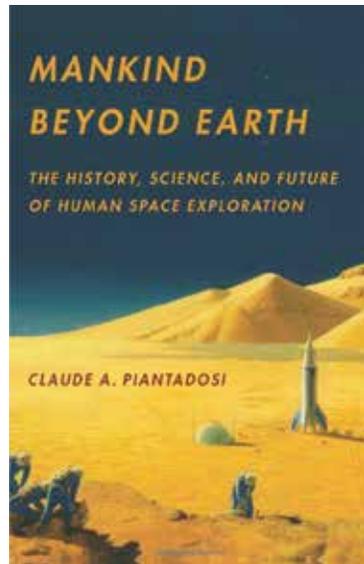
Susannah Hopkins Leisher, SAIS '92, blogged about her family's year in Maine in *The New York Times' Green* blog.



**Finding your path, learning happiness, cannot be a one-off activity, something to be done and completed in a cabin in the woods or anywhere else.**

## Mankind Beyond Earth

Claude A. Piantadosi



### SPACE EXPLORATION

## Cost in Space

The United States sent 12 men to the moon from 1969 to 1972 during NASA's Apollo program. To do so, it cost \$3 billion—in 1972 dollars—per round-trip ticket. That's the dizzying conundrum of space exploration: The sums of money and the physical scale are so outsized that it can be difficult to qualify the science bang for the buck. Mars, where the *Curiosity* rover landed last year, is, at its closest, some 34 million miles from Earth. *Curiosity's* journey there took eight months and cost about \$2.5 billion. What we learn from it is yet to be determined.

Claude A. Piantadosi's *Mankind Beyond Earth: The History, Science, and Future of Human Space Exploration* (Columbia University Press, 2013) is a critical but engaging defense of that process. Piantadosi, Med '75, is the director of Duke University's F.G. Hall

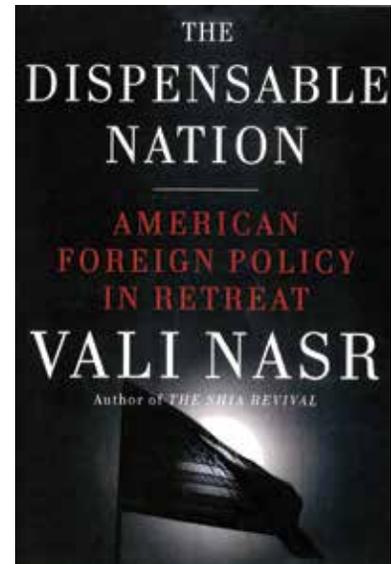
Environmental Laboratory, and in his introduction he admits that he has worked on NASA contracts over the past 20 years but that he's not a NASA man. That makes him an expert insider, and his brisk and thorough examination of the U.S. space program so rich and detailed.

The structure of *Mankind* is as much an economics-of-science study as it is a cultural history-of-science narrative. Piantadosi brings those two together to frame space exploration as both good economic and scientific sense. He writes with a casual confidence, covering the necessary requirements and improvements in biomedical sciences needed to support human life during space travel as succinctly as he discusses the energy physics that makes space travel possible.

This broad approach dotted with detailed examples allows Piantadosi, come the book's end, to discuss hypotheticals involving spacecraft velocities at 10 percent the speed of light to travel to Alpha Centauri nearly 25 trillion miles away, and he's provided the lay reader with enough background to make the scenario seem nearly plausible. It's the sneaky way he lets space exploration speak for itself: The book's cover features an image from space art pioneer Chesley Bonestell that recalls those midcentury magazines that posited space exploration in the realm of science fiction. But where reading science fiction often makes the impossible seem possible, reading *Mankind Beyond Earth* makes the hard to comprehend become *able to be considered*, a subtle illustration that knowledge in and of itself often offers its own rewards. **Bret McCabe**

## The Dispensable Nation

Vali Nasr



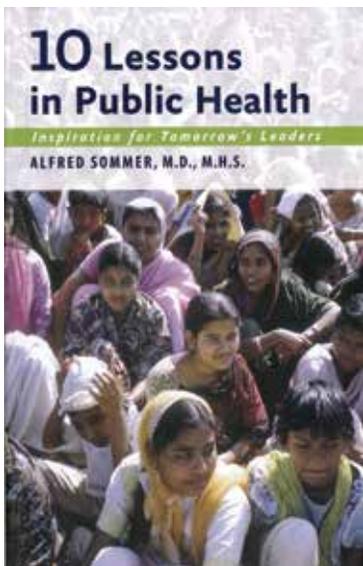
### FOREIGN POLICY

## American Retreat

Vali Nasr's *The Dispensable Nation: American Foreign Policy in Retreat* (Doubleday, 2013) is that rare contemporary political examination: critical and positive, specific and big picture. Nasr, dean of the Paul H. Nitze School of Advanced International Studies, uses his experience as a senior adviser to veteran U.S. ambassador Richard Holbrooke to discuss what the United States is and isn't doing right in the Middle East. He delivers a highly informed examination of the Obama administration's Middle East policy that doesn't turn into partisan sermonizing. He offers an insider's perspective of diplomatic talks to assay the foreign policy's overarching philosophy. And he somehow provides a streamlined plunge into today's fractured Middle East that has the audacity to be hopeful in the face of an uncertain future. **BM**



**10 Lessons in Public Health**  
Alfred Sommer



**PUBLIC HEALTH**

**Lessons Learned**

Alfred Sommer, SPH '73, dean emeritus of the Bloomberg School of Public Health, has been working in the epidemiology of international health since the 1970s, and his *10 Lessons in Public Health: Inspiration for Tomorrow's Leaders* (Johns Hopkins University Press, 2013) offers a brisk primer on the field. Using anecdotes from his own fieldwork, Sommer's chapters offer calibrating examples for researchers that he presents as no-nonsense aphorisms: "Forget the Job Description," "Use Data to Set Policy," "Go Where the Problems Are," etc. Like *The New Yorker's* medical writer Atul Gawande, Sommer is deftly able to explore his field's big ideas by directly following ordinary human stories, which not only makes the lessons easy to understand but foregrounds the reasons why to do it in the first place. **BM**

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# ...Yong Hi Moon

## Hollis Interviews

**Yong Hi Moon**  
Piano faculty at the  
Peabody Conservatory



.....  
**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.

**Favorite designer:** No favorite—whatever is in style and comfortable

**Favorite pastime:** Watching Ingmar Bergman films, particularly *The Virgin Spring*

**Trivia:** Does not own an iPod

**You studied piano with Leon Fleisher at Peabody from 1977 to 1985, then taught at Michigan State University for 15 years before returning to Peabody in 2002. What is special about teaching at a conservatory?**

The atmosphere at a conservatory is very different from a large university. Students at Peabody have fewer academic requirements and they practice so much more. But practice alone does not make you a great artist. Here, it's up to my students to seek out courses that will make them an individual as well as a pianist. The Homewood campus offers great opportunities to take classes and interact with students who are not musicians. But it takes a lot of effort to get out of the iron-gated pond here and see more of the university.

**Are your Peabody students very competitive?**

Yes, most of them are naturally competitive. Many come from competitive backgrounds; if they don't they will soon need to learn to rise to the challenge. When I interview prospective students I can immediately tell who will fit in. They will need to compete. They quickly start learning what competition is.

**You are also quite striking and fashionable! Is appearance important to success on stage?**

Thank you! To answer your question, self-expression and awareness of your physical body generally is crucial. I give self-presentation advice to my students, but in the larger context of being comfortable with one's own physical presence. These are work clothes and you have to feel comfortable in them. Concert dress is important and how to behave onstage is important. And fashion has to fit the personality of the performer. You don't just walk onstage looking like Cinderella.

**So your teaching work is about the person as well as the playing . . .**

Absolutely. Students learn the repertoire, romantic and classical. Once they learn technique and the concept of the technical approach to the keyboard, they must learn how to apply their own body structure to the instrument. What I try to bring out is the higher potential of the person. Let's say the student has incredibly small hands. I help them understand that they can still reach. They have power. For everyone the proportions are different—fingers and palm, the upper and lower arm—it all goes into the understanding of their own relationship to the instrument and understanding themselves. They learn the ability to be themselves.

**You've been winning competitions since you were 9 years old. Were you naturally competitive?**



Oh yes. Plus my parents expected me to be at the top of the class. I was lucky to grow up with parents who recognized and supported excellence.

**You have three grown children who are musicians. Did you expect this to happen?**

I didn't want them to be musicians. But we took their musical education seriously and would drive often five hours regularly so they could take lessons with the teacher who was best for their musical development. They must have felt that music was very important. My son is the first violinist in the Jupiter String Quartet; one of my daughters is a cellist, and the other plays the clarinet.

**What would you like to be doing in 10 years?**

I would like to be teaching a little less and practicing a little more. The problem is that I love teaching. Students bring me energy. I'm still in touch with most of my former students. They call to ask me for advice—about marriage, children, how to survive in this competitive field. In the near term, I perform regularly. In December, in Korea, I performed Mozart's Concerto no. 25 in C Major, K. 503, with the Peabody Alumni Orchestra, and I gave master classes in Beijing. In early summer I will be performing a duo recital

with my husband, [pianist/conductor] Dai Uk Lee, and another chamber recital in Korea.

**Is your husband also well dressed?**

Let's say when it comes to fashion, he is no Brad Pitt.

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**Yong Hi Moon**, piano faculty at the Peabody Conservatory, has won top prizes in the Elena-Rombro Stepanow Competition in Vienna; the Gian Battista Viotti International Music Competition in Vercelli, Italy; and the Vienna da Motta International Music Competition in Lisbon, Portugal, and has received the Chopin Prize from the Geneva International Competition in Switzerland.

## Bloomberg Gives \$350 Million

Philanthropist and New York City Mayor Michael R. Bloomberg, Engr '64, has committed \$350 million to Johns Hopkins University, anchoring a major initiative aimed at bringing sweeping innovation to the educational approach at Johns Hopkins that will, in turn, serve as a model for U.S. higher education. The total commitment—the largest ever to the university—lifts Bloomberg's lifetime giving to Johns Hopkins beyond \$1 billion.

The majority of the new gift, \$250 million, will be part of a larger effort to raise \$1 billion to facilitate cross-disciplinary work across the university to galvanize people, resources, research, and educational opportunities around a set of complex global challenges. Initially, the funds will be used to support the appointment of faculty in the areas of water resource sustainability, individualized health care delivery, global health, the science of learning, and urban revitalization. The remaining \$100 million will be dedicated to need-based financial aid for undergraduate students, ensuring that the most talented and most driven students are admitted to the university's classrooms, regardless of economic circumstance. In all, the gift will make possible 50 Bloomberg Distinguished Professorships and 2,600 Bloomberg Scholarships.

This transformational gift enhances Johns Hopkins' flexible and multidisciplinary approach to solving fundamental societal problems. It will bring together scientists and scholars from numerous disciplines—ranging from politics and policy, to health care delivery, to basic curiosity-driven research—to support more meaningful collaboration. The goal, simply



PHOTOGRAPH BY WILL KIRK/HOMWOODPHOTO.JHU.EDU

put, is to make it as easy for faculty, staff, and students to work across disciplines as within them.

"This latest initiative allows us to greatly accelerate our investment in talented people and bring them together in a highly creative and dynamic atmosphere," university President Ronald J. Daniels said in a January announcement. "It illustrates Mike's passion for fixing big problems quickly and efficiently. It will ensure not only that Johns Hopkins helps to solve humanity's problems but also that it leads the world's universities in showing how it should be done."

"Each dollar I have given has been well spent improving the institution and, just as importantly, making its

education available to students who might otherwise not be able to afford it," Bloomberg said in the announcement. "Giving is only meaningful if the money will make a difference in people's lives, and I know of no other institution that can make a bigger difference in lives around the world through its groundbreaking research—especially in the field of public health."

Bloomberg is believed to be the first person ever to reach the \$1 billion level of giving to a single U.S. university and academic medical center. With this new commitment, Bloomberg has now given Johns Hopkins \$1.118 billion in the 49 years since he graduated. **Dennis O'Shea**

## Experts Gather to Talk About Guns

One month to the day after the Sandy Hook Elementary School massacre, and just days before Vice President Joe Biden would present a set of recommendations on gun reform to President Barack Obama, global experts on gun policy gathered at the Bloomberg School of Public Health for the *Summit on Reducing Gun Violence in America*.

President Ronald J. Daniels opened the conference with a moment of silence for the victims of Newtown, Aurora, Blacksburg, and other mass shootings, and those gunned down in the nation's cities and towns daily.

"Because our conversations over the next two days will take place against the backdrop of a bleak record of stunted policy reform in this area, it is tempting to regard this summit as one more exercise in futility," Daniels said during his opening remarks. "Essentially, the skeptics fear that a good idea for gun policy reform is no match for the formidable interests that oppose gun legislation, that this is so even after an event as cataclysmic as Newtown. Yet today, I urge a more optimistic view that is predicated on the belief that we are not slavishly tethered to the current matrix of inadequate national gun laws."

The event's keynote speakers were Maryland Gov. Martin O'Malley and New York City Mayor Michael Bloomberg, Engr '64, who is also co-chair of Mayors Against Illegal Guns. For two days, more than 20 experts presented the latest research and thinking on gun violence in the United States and elsewhere. One of those speakers was Daniel Webster, director of the Bloomberg School's Center for Gun Policy and Research and the moderator of the event, who discussed the need for expanding prohibitions on

firearm sales, which could include raising the minimum legal age of handgun possession from 18 to 21, and prohibiting sales to those with documented drug and alcohol dependencies.

At the end of the conference, the summit participants unveiled a set of recommendations aimed at reducing gun violence, including universal background checks on all gun sales, the expansion of conditions for firearm purchase to prohibit high-risk individuals from obtaining guns, a ban on the future sale of assault weapons and high-capacity magazines, and increased federal support to enforce laws.

Two weeks after the summit, Johns Hopkins University Press published a book, *Reducing Gun Violence in America: Informing Policy with Evidence and Analysis*, that compiles all the findings

and views presented at the summit. The book was edited by Daniel Webster and Jon Vernick, also with the Center for Gun Policy and Research.

The event, by many measures, was a success. The summit received comprehensive media coverage, and the hashtag #jhugunpolicy trended internationally on Twitter for days. According to staff at the JHU Press, book orders have been quite strong for such a publication. And since the summit, Center for Gun Policy and Research faculty have been in high demand—testifying before a Senate subcommittee on reducing gun violence, appearing on the *Today* show, and meeting with White House officials, Consumer Product Safety Commission staff, senators, congressmen, and governors. **Greg Rienzi**

Andy 친구

Enter and drink from the grail: all is revealed. As a baby opening eyes for the first time, the images as opposed to the vowels may be simpler to focus on. The answer lies right in front of our noses. This scripture (arbutus) melts all darkness: war, prejudice, disease, hatred; within womb light shines.

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**In Memoriam**  
Steven Muller



**Call It Croft Hall**  
The building formerly known as the New Engineering Building



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

## In Memoriam

In January, the Johns Hopkins community was saddened to learn of the death of President Emeritus Steven Muller, who served as president of the university from 1972 to 1990. He died from respiratory failure at age 85.

Muller’s ascent at Johns Hopkins was extraordinarily fast. Hired as provost in 1971, he was selected by the board of trustees to be president a mere 10 months later. He was also president of Johns Hopkins Hospital until 1983; only Daniel Coit Gilman had held the presidencies of both institutions. Current Johns Hopkins President Ronald J. Daniels cited Muller as “a remarkable leader whose vision and determination enhanced dramatically the institution’s national and global prominence.”

The university’s 10th president led a remarkable life. He was born Stefan Mueller in Hamburg, Germany, in 1927. Because he had a Jewish father, he was beaten by members of the Hitler Youth. In 1938, the family fled first to England then to the United States, where they settled in Los

Angeles. As a young man, Muller appeared in seven Hollywood films, including *The White Cliffs of Dover* with Irene Dunne. Eschewing an acting career, he studied political science and politics at the University of California, Los Angeles, and the University of Oxford (where he was a Rhodes scholar), and earned a doctorate from Cornell University in comparative government.

As president of Johns Hopkins, Muller was instrumental in bringing Peabody Institute into the university, restoring the museums at Homewood and Evergreen, bringing the Space Telescope Science Institute to campus, establishing the Hopkins-Nanjing Center for Chinese and American Studies and the American Institute for Contemporary German Studies, creating the Zanvyl Krieger Mind/Brain Institute, and making the School of Nursing and the Whiting School of Engineering stand-alone divisions of Johns Hopkins. **Dale Keiger**

## Call It Croft Hall

L. Gordon Croft, Engr '56, has made a \$5.4 million commitment to the Whiting School of Engineering. The gift will be used to invest in multidisciplinary programs, as well as provide funding for junior faculty and an undergraduate scholarship for a student with financial need who is a member of the Phi Kappa Psi fraternity. In recognition of this gift, the New Engineering Building on the Homewood campus will be renamed Croft Hall.

Croft, who after graduating built the investment management company Croft Leominster Inc., had previously endowed a scholarship to support students from his native Port Tobacco in Charles County, Maryland, four fellowships, a junior professorship, and the Billig-Croft Lecture.

Croft Hall is located on the Wyman Quadrangle and provides 38,000 square feet of office and research space, including housing the Department of Computer Science and the Institute for NanoBioTechnology.

**Phil Sneiderman**



**\$10M for HCPI**  
Map of the HCPI district



**Parkway Partners**  
The Parkway Theatre



RIGHT: PHOTOGRAPH BY KENNY CARTER  
LEFT: GOOGLE MAPS

## \$10M for HCPI

In December, Johns Hopkins University announced its commitment to the 10 neighborhoods surrounding its Homewood campus with a \$10 million investment in the Hopkins Community Partners Initiative. HCPI grew out of a yearlong collaboration with local community groups and civic leaders and has identified five areas to focus on: quality of life, housing, education, commercial retail development, and local hiring, contracting, and purchasing.

The \$10 million investment, to be spread over five years, isn't a mere financial stake; it's committing human and political resources as well. "This partnership involves convening, collaborating, and agitating on behalf of a shared cause," university President Ronald J. Daniels said at a press conference. It represents "one concrete way that Johns Hopkins will support the diverse and visionary efforts of our partners to build a more vibrant, active, and growing urban area." **Bret McCabe**

## Parkway Partners

In December, Johns Hopkins University entered into a collaborative partnership with the Maryland Institute College of Art and the nonprofit Maryland Film Festival to transform a nearly century-old Baltimore movie theater into a year-round multipurpose arts venue and educational hub. The Parkway Theatre, located at 3 West North Avenue, hasn't operated as a theater since the mid-1970s. The nearly \$17 million proposed renovation plan envisions a three-screen, multipurpose performance space with film production facilities to be used by faculty and students from both schools.

"It'll be a game changer," says Linda DeLibero, associate director of Johns Hopkins' Film and Media Studies program. "We'll be active partners in the programming process, and we'll be able to plug [that programming] into our course work." Through the partnership with the Maryland Film Festival, she adds, students will have greater access to people in the film industry.

The Parkway Theatre, built in 1915, originally served as a vaudeville house with 1,100 seats. It was acquired by the Loews movie chain in the 1920s and primarily screened movies until it closed in the 1970s. The renovation will create one 420-seat theater, plus two smaller rooms with about 100 seats each, aiming to open in the fall of 2015.

Those screening capabilities alone greatly improve Johns Hopkins film students' experiences. Shriver Hall is the only venue on the Homewood campus that can project 35 mm films, and its 1,094 seating capacity makes it too spacious for anything but very large events.

"We don't really have a place that's adequate for screening the films we want to run," DeLibero says. "And that's one of the things we struggle with. [The renovated Parkway] is going to have digital projection, 3-D, 70 mm, 35 mm, and it just opens up a whole world for us. Just from a standpoint of somebody who loves films, it's going to be amazing." **BM**

## Abbreviated

Edited by Catherine Pierre

In January, Johns Hopkins University launched the new **Science of Learning Institute**, which will bring together researchers from across the university to study the way our brains learn and how educational programs and new technologies can maximize that process. Funded by a gift from an anonymous donor, the institute will be inviting proposals to fund interdisciplinary research activities, fellowships, and workshops.

Speaking of research, the university performed **\$2.1 billion in medical, science, and engineering research** in fiscal year 2011, making it the leading U.S. academic institution in total research and development spending for the 33rd year in a row, according to the latest National Science Foundation ranking.

**Krieger School of Arts and Sciences** anthropology Professor **Jane Guyer** was given the **Distinguished Africanist Award** by the African Studies Association last fall. Astrophysicists **Brice Ménard** and **Charles L. Bennett** were appointed to the **Euclid Consortium**, the international team of scientists overseeing a joint European Space Agency-NASA telescope project designed to probe the mysteries of dark energy and dark matter.

In December, three **Peabody Institute** undergraduates—trumpeter **Emily Korth**, French horn player **Liz Fryer**, and trombonist **Frankie Yu**—traveled with **Amy Klosterman**, Peab '91 (MM), to Uganda to share their skills with young musicians as part of The Uganda-Baltimore Alliance, otherwise known as TUBA, an organization



Klosterman founded to bring instruments and instruction to young Ugandans. On two February Sundays, 11 students from musicologist **Andrew Talle's** class, **The African-American Gospel Tradition in Baltimore**, performed with the Divine Voices of Praise choir at Ark Church on East North Avenue in Baltimore. The gospel class will perform with the choirs of three other predominantly African-American churches in the Baltimore area this semester.

**Krieger School** senior **Lay Kodama** and **Whiting School of Engineering** senior **Tiras Lin** were both selected as **Churchill Scholars** by the Winston Churchill Foundation of the United States. The scholarship is awarded to 14 students nationwide who have demonstrated a capacity to contribute to the advancement of knowledge in the sciences, engineering, or mathematics by completing original, creative work at an advanced level.

Five **Whiting School** faculty members have received the National Science Foundation's prestigious **Faculty Early Career Development (CAREER) Awards**: **Thao Nguyen**, an assistant professor of mechanical engineering; **Mark Foster**, an assistant professor in

the Department of Electrical and Computer Engineering; **Margarita Herrera-Alonso**, an assistant professor in the Department of Materials Science and Engineering; **Rebecca Schulman**, an assistant professor of chemical and biomolecular engineering and computer science; and **Honggang Cui**, an associate professor of chemical and biomolecular engineering.

**Eliot Cohen**, director of the Strategic Studies Program at the **Paul H. Nitze School of Advanced International Studies**, was named to *Foreign Policy* magazine's "100 Top Global Thinkers 2012" list, cited for "writing the GOP's foreign-policy playbook in 2012." SAIS' **Center for Transatlantic Relations** was named the No. 1 university-affiliated think tank in Washington, D.C., No. 5 in the United States, and No. 8 in the world in the University of Pennsylvania's 2012 **Global GoTo Think Tank** rankings.

**Carey Business School** Dean **Bernard T. Ferrari's** book *Power Listening: Mastering the Most Critical Business Skill of All* was named one of last year's **10 best business books** by WealthManagement.com. Beth Comstock, chief marketing officer of General Electric, also quoted from the

book in a piece she wrote for LinkedIn about the importance of listening.

A cross-divisional team of graduate students from the **Carey Business School**, the **Bloomberg School of Public Health**, and the **Whiting School of Engineering** took first place and \$10,000 in the **Biotechnology Conference and Case Competition** held at Wake Forest in February.

*The Daily Record* named **School of Nursing** Dean **Martha N. Hill** to its 2013 list of **50 Influential Marylanders**. Hill, who led the school to its current spot at the top of the *U.S. News & World Report's* list of graduate schools of nursing, earlier announced that she will retire as dean at the end of the academic year.

**Isaac Kinde**, a cancer researcher and MD/PhD candidate in the **School of Medicine**, was named by *Forbes* as one of **30 people under 30 in science and health care**. Kinde's research focuses on improving the accuracy of DNA sequencing technology for use in detecting cancers. Three SoM researchers were elected as fellows of the American Association for the Advancement of Science: **Linzhao Cheng**, a professor in the Division of Hematology; **Svetlana Lutsenko**, a professor in the Department of Physiology; and **Duojia Pan**, a professor in the Department of Molecular Biology and Genetics. Neuroscience professors **Solomon H. Snyder** and **King-Wai Yau** won, respectively, the National Academy of Sciences Award in Neurosciences and the Alexander Hollaender Award in Biophysics, both awarded by the NAS once every three years.

The Burroughs Wellcome Fund awarded a \$2.5 million grant to the

**School of Medicine** and the **Bloomberg School of Public Health**. The award supports the **Maryland Genetics, Epidemiology and Medicine** program, which is administered jointly by the two schools, and will enable researchers to cross-train genetic epidemiologists and human geneticists simultaneously.

**Bloomberg School** Dean **Michael J. Klag** co-wrote, with George Washington University School of Public Health and Health Services Dean Lynn R. Goldman, an op-ed published in the January 7 issue of *The Baltimore Sun*, arguing that a fake vaccination program the CIA ran in Pakistan to assist in the hunt for Osama bin Laden had created mistrust for health care workers and threatened the global effort to eradicate polio.

The **School of Education** is launching a new full-time **Doctor of Philosophy in Education** program in the fall. The interdisciplinary PhD program is meant to prepare scholars to address challenges associated with improving pre-K-12 learning outcomes in high-

risk school communities. In January, Dean **David Andrews** appeared before the state of Maryland's Senate Education, Health, and Environmental Affairs Committee and the House Committee on Ways and Means, responding to questions about education reform, focusing particularly on early childhood education and personalized learning.

The **Applied Physics Laboratory** is doing its part to improve education. In December, APL offered its first-ever **Parent STEMpowerment Workshop**, aimed to help parents of middle school students prepare their children for science, technology, engineering, and math careers. Representatives from Johns Hopkins, the Maryland State Department of Education, Northrop Grumman, Maryland MESA, and the University of Maryland were among the speakers and panelists. APL has also launched a website, **jhuapl.edu/STEM**, that provides STEM-related information, tools, and activities for students, teachers, and parents.

## GOLOMB'S GAMBITS™

### Some Endings

Solomon Golomb, A&S '51

1. Many English words end in **-ful** and many end in **-less**. Some pairs of words (e.g., **harmful**, **harmless**) differ only by one ending in **-ful** and the other ending in **-less**. (These pairs need not be direct opposites.) How many such pairs can you think of in half an hour? (My list, surely incomplete, shows 44 pairs, but 25 is an excellent score, and 18 is very good.) I've avoided archaic words (like **ruthful**) and obsolete words (like **sightful**).

2. Most words ending in **-dom** indicate title, rank, or realm (**kingdom**, **dukedom**, **fiefdom**, **Christendom**) or a condition (**freedom**, **martyrdom**, **serfdom**). Find four common six-letter words ending in **-dom** where removing

the **-dom** does not leave a three-letter word suggesting the meaning of the full word. (Thus, **fandom** doesn't qualify.)

3. Most longer words ending in **-try** result from adding **-ry** to words already ending in **t** (e.g., **artistry**, **chemistry**, **forestry**). However, most (but not all) **-try** words of fewer than seven letters are not of this type. How many **-try** words of five or six letters can you find? (I have identified two of five letters and 10 of six letters.)

4. At least four words that can be followed by **-ful** and **-less** in number 1 can also be followed by **-some**. What are these words?  
*Solutions on page 78*

## Welcome

In this issue, we look forward, whether that means funding the next generation of injury prevention researchers at the Bloomberg School of Public Health (at right) or setting a framework for how economics and finance education should come together in the future to avoid another global economic crisis (p. 70). We also take a look back, catching up with two women from the undergraduate Class of '74 as they recall the beginnings of coeducation at Homewood and the lifelong friendship that grew out of their shared experience (p. 72).

## PREVENTING INJURIES, SAVING LIVES

Written by | JENNIFER WALKER

In the mid-1970s, injury epidemiologist Susan Baker, SPH '68, spent her mornings studying bodies in the Office of the Medical Examiner's autopsy room on Baltimore's Fleet Street. Weaving around four tables, she investigated each body's injuries and read case reports, searching for patterns. Since joining the office in 1968, she had inspected only a few infants a year who suffered fatal injuries in motor vehicle accidents. But because she did not see older children with the same injuries, Baker had a hunch: Babies were more likely to die in these crashes than older children. She embarked on a study and found that she was right—infants died in motor vehicle accidents at twice the rate of 1-year-olds. Her findings, published in a landmark paper in 1979, led advocates to successfully push for infant car seat laws in several states. Such groundbreaking research has marked Baker's career as a professor at the Bloomberg School of Public Health; it is also what led to the endowment of the Susan P. Baker Scholarship in Injury Prevention and Control, which aims to support the next generation of injury prevention researchers at the Bloomberg School.

Baker remembers well how infants traveled before car seats were available. In the 1950s, before she had a hand in more than 250 research papers and five books about injury prevention, Baker had three young children. With her husband, Tim, driving, Baker would sit in the passenger seat with one of the infants on her lap—a

human airbag between Baker and the dashboard. "That was the standard way to travel," she says. Tim Baker, A&S '48, SPH '54, an international health professor at Johns Hopkins, was already a safety advocate and had installed khaki aviation lap belts in the family car more than a decade before federal law required seat belts. But the need to restrain infants never crossed their minds. "We didn't think anything about it," Baker says.

Baker would start thinking seriously about injury research a decade later while studying public health at Johns Hopkins. In 1966, trying to avoid taking a chronic disease epidemiology class so she could be home more often with her children, she chose to work on an independent research project instead. Her husband, remembering how horrified she had been on hearing that 50,000 people die in motor vehicle accidents annually, suggested she research accidents. Although this was not considered a public health discipline at the time, Baker chose to study the causes of fatal car crashes. Since then, she has researched accidental and intentional fatalities—such as those caused by guns, aviation crashes, opiate poisoning, and bicycles—and how to prevent them. But her vehicular infant fatality study remains one of her proudest professional accomplishments.

When she began looking into infant deaths, Baker requested data from the National Center for Health Statistics—which showed that 3,152 children under 13 died in motor vehicle accidents between 1976 and

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1977. She analyzed the data by age and her resulting paper, published in *Pediatrics*, was a mere two pages long. “It would take you three minutes to read it, but [it] was somewhat revolutionary,” she says.

After the paper was published, advocates used Baker’s research to nudge their states’ lawmakers to pass infant car seat laws. Influencing policymakers usually takes years, but Baker says that doing so is the most effective way to prevent injuries. “Trying to change the behavior of people who are most likely to be injured is even harder,” she says. “They’re usually very young, very old, or very drunk.” In this case, state legislatures were already thinking about improving infant safety in motor vehicles, thanks to Tennessee, which became the first state, in 1978,

to require car seats for infants. By 1982, 20 more states had passed similar laws. Today, all 50 states require child safety seats, which decrease the chances that infants will die in motor vehicle accidents by 71 percent.

Over her nearly 50-year career, Baker has also helped bring injury prevention to the public health curriculum at Johns Hopkins. In 1973, she taught the university’s first injury prevention course; in 1987, she was the founding director of the Johns Hopkins Center for Injury Research and Policy, which celebrated its 25th anniversary last year. In 2012, her colleague Leon Robertson, a retired injury epidemiologist who held positions for many years at Johns Hopkins, Harvard, and Yale, established an endowment in her name.

Baker is deserving of this honor because her large body of work “made it legitimate for epidemiologists to work in the field,” Robertson says. Wanting to attract good students, Baker and her husband also contribute to the endowment.

Last December, Baker was packing up her office in the Bloomberg School’s Hampton House, though she still teaches and advises students. At 82 and wanting to drastically reduce her daily driving time, she plans to eventually be on campus only one day a week. But she hasn’t slowed down. From home, Baker is working on two different studies, researching the number of fatalities caused by fires and burns, as well as fatalities resulting from sightseeing flights. After all, there will always be more injuries to prevent.



Injury epidemiologist Susan Baker has been a pioneer in the field of injury prevention and control for decades. A licensed pilot, she is currently researching fatalities resulting from sightseeing flights.

## FINANCE, HAVE YOU MET ECONOMICS?

Interview by | KELLY BROOKS

In 2008, the world watched helplessly as stock markets took a nose dive and financial institutions collapsed left and right. Jobs evaporated, foreclosures skyrocketed, and the value of real estate and retirement funds plummeted. Economists, financial wizards, elected officials, monarchs, dictators, and central bank presidents all struggled with the same problem: How to respond to the worst financial crisis since the Great Depression? Bail out the banks or allow them to collapse? Embrace big-spending fiscal stimuli or employ tight-fisted austerity measures? Wasn't somebody supposed to have an answer for all this?

Nearly 10 years earlier, Lou Maccini, professor of economics at the Krieger School of Arts and Sciences, and Chuck Clarvit, A&S '78, now CEO of the Brazilian asset and wealth management firm Vinci Partners International, had been asking the same question. They knew that finance—the science of saving and lending money—had strayed too far from its foundation in economics, a discipline that seeks to explain prices, income, production, consumption, the distribution of goods and services, and the use of money. Conversely, otherwise brilliant economists didn't have training in the language of finance and Wall Street. Their solution? Establishing the Center for Financial Economics at Johns Hopkins, which opened in 2007. We spoke with Maccini and Clarvit to discover how the center bridges the gaps between economics and finance and what it could mean for the future of our global economy.

**Chuck** People spend money, time, and attention as they get up to speed to vote for a president. That leader has certain tools to help steer the economy, and there are many, many tools available to central banks like the Federal Reserve. But there is next to no financial understanding about this among a tremendous number of individuals. That makes for a very strained political situation when financial crises take hold, and that is where the world almost came unglued just recently.

**Lou** We started conceptualizing the center 10 years before the financial crisis. We were concerned that basic ideas in economics and finance were not effectively integrated. An example is the idea that a large and well-connected financial institution in trouble could cause problems for financial markets as a whole and the entire economy—something now known as systemic risk. This idea became a reality when the 2008 collapse of Lehman Brothers triggered a stock market plummet and destabilized other financial giants. It's the reason the Treasury and Federal Reserve intervened. Now what economics and finance are crying out for is integration of ideas and training so that students have the capability of thinking about how to prevent these disasters.

**C** When I worked at [New York investment bank] Oppenheimer, I had finance and economics students from lots of colleges and universities come to us looking for jobs. I could discern the brilliance of Hopkins economics

students who were schooled and capable, and certainly qualified, but they didn't know the language of Wall Street.

**L** There were research activities going on in economics departments, which study what determines the economic variables that we see every day: prices and income and wages and profits and international trade. And then there were research activities going on in finance departments, which study financial variables like interest rates on bonds and the stock market and borrowing activity. And there wasn't a great deal of communication and interaction in trying to see the interplay between the two. For example, macroeconomists hadn't paid much attention to how the relative risks associated with different financial assets could affect the economy as a whole—a lesson that turned out to be important years later during the financial crisis. So we came up with the idea to establish the Center for Financial Economics.

**C** I think what a lot of other schools produce are individuals who believe they need to be as competitive as possible to derive profit maximization. What the Center for Financial Economics is all about is the macro element of that. You have to understand all the elements, how they mix, how you can still derive profit, but make sure what you're mixing together doesn't blow up the world.

**L** Over the last 50 years we've seen financial firms become much more



interconnected. If one of these firms collapses like Lehman Brothers, it has ramifications both nationally and internationally. We need to have a better understanding of this interconnectedness. If a problem such as plummeting stock values hits economies throughout the world, what's going to happen? And for policymakers, what can be done to minimize these problems or deal with them when they occur?

**C** We need people out in Treasury positions, CFO positions in corporations, and on Wall Street who understand these complexities. They need

to know how it works on Main Street and on Wall Street.

**L** That's where we see ourselves going: having an impact on research, thinking about how finance and economics interact in the world, and training students who have an understanding about making decisions in that environment and advising policymakers.

**C** If we can influence policy, if we can get the world to recognize that Hopkins is really setting a framework for how economics and finance should come together, we hope to influence governmental departments,

the foundations that fund things like this, academic visionaries who contemplate this kind of stuff. We have a chance to have an enormous impact in the not-too-distant future.

**Lou Maccini** (above, right) professor of economics, has taught at the Krieger School for 44 years and previously served as chair of the Department of Economics. He was also instrumental in founding the Center for Financial Economics, where he currently serves on the faculty as senior adviser.

**Chuck Clarvit** (above, left) is CEO of Vinci Partners-US, an asset and wealth management firm headquartered in Brazil. He has served on advisory boards for the Center for Financial Economics and the Krieger School, and is currently a member of the Johns Hopkins Board of Trustees and chair of the Student Life Committee.

## SOMETHING TO PROVE

Written by | REBECCA MESSNER, A&S '08

In their friendship of more than 40 years, Jean Hochheimer Hochron, A&S '74, and Coleen Erdman Friedman, A&S '74, have helped each other through life's milestones—getting married, navigating the workplace as working mothers, sending kids off to college, losing parents. Their first shared milestone occurred in September 1972, when they met at Johns Hopkins as undergraduate transfer students, joining the historic Class of 1974. Just two years earlier, Hopkins had broken a 94-year tradition and admitted the first female undergraduate students, marking the beginning of coeducation at Homewood—a move that many faculty, administrators, and students supported, while others vehemently did not.

On the surface, Hochron and Friedman were different: “She was tall and fair, and very poised,” says Hochron. “I envied that—I’ve got more of an edge to me. I’m from outside New York City, I’m short, I move at a totally different pace.” But despite their differences, they were both women, and at Johns Hopkins in 1972, that was as meaningful a connection as any. “We were allowed into this rarified world of very demanding academics,” says Friedman. “And not only did we have to do well for ourselves, we had to prove that women could do well at Hopkins. So we set the bar very high for ourselves, and I think that was a common feeling.”

Looking back, Hochron says she and her fellow female classmates put

up with prejudices that now seem unfathomable; after a disagreement with one professor, for instance, Hochron recalls that he told her, “Don’t you understand? We really don’t want you here.”

The focus, then, was on succeeding. “Each of us women who were there had those kinds of challenges,” Hochron says. “But we didn’t know until recently when we got together [last October, at the First Women of Johns Hopkins reunion] that we were all doing this, and we were all doing this on our own. Everyone just put one foot in front of the other.”

Years after graduation, Friedman recalls how she and Hochron had felt as working mothers. “It was very difficult to be a professional woman, have children, and still maintain a career,” she says. “When Jean had her first child [in 1980], she negotiated with her employer to convert to part time, working three days a week—and that was a brand new concept. And so I copied her.”

“We commiserated a lot,” says Hochron, who would call Friedman every Friday morning when she was putting away the groceries.

Both women are still enjoying successful careers—Hochron, a retired federal health policy advocate, now directs health care programs for uninsured and homeless individuals in Montgomery County, Maryland, and Friedman serves as a director for the National Multiple Sclerosis Society in Chicago.

“Being at Hopkins at that time and in that era made us feel empowered,” says Friedman. “And I think we feel like we still have something we have to prove. That never goes away.”



Jean Hochheimer Hochron (left) and Coleen Erdman Friedman joined former classmates last October for the First Women of Johns Hopkins reunion, a gathering of women who were among Hopkins' first female undergraduates.



ILLUSTRATION BY OLIVER JEFFERS

## THE BIG EASY

Written by | MARIANNE AMOSS

There's no doubt that New Orleans is one of the most vibrant cities in the country. Its charms and attractions are many, from the picturesque **French Quarter (1)** to downtown's **Preservation Hall (2)** to **Café Du Monde (3)**, the famous purveyor of beignets and café au lait—not to mention the many off-the-tourist-path spots that the locals know and love.

Frank de Caro, A&S '64 (MA), '74 (MA), and his wife, Rosan Jordan, felt the pull of New Orleans. They moved there in 2004 from Baton Rouge, where de Caro was a longtime professor of English at Louisiana State University. "Baton Rouge has always been too suburban," he says. "We liked the urban feel of New Orleans." De Caro has since become involved in the fledgling Johns Hopkins alumni

chapter in New Orleans, which aims to foster a sense of community among the hundred or so Hopkins alumni in the area and raise the university's profile among prospective students.

Last June, the chapter held a kickoff event at **Château du Lac (4)**, a traditional French bistro in Metairie, to drum up enthusiasm and membership. Since then, they've hosted gatherings at de Caro's home during Mardi Gras (which, in addition to networking opportunities, afforded attendees the rare clean bathroom near the parade route) and at such area museums as the **New Orleans Museum of Art (5)**, the oldest fine arts museum in the city, and the Ogden Museum of Southern Art, which focuses on the cultural and visual heritage of the American South. In

November, organizing committee member Lauren Richey, SPH '06, put together a panel discussion at Tulane University School of Medicine that was centered on the Affordable Care Act and its impact on New Orleans. And this fall, chapter members are planning to start a program that will partner alumni with promising high school juniors from a variety of socioeconomic backgrounds; the alums would serve as mentors and get Johns Hopkins on the students' radar.

Richey, who has lived in New Orleans since 2007, says the time feels right for an alumni chapter in the Big Easy. "The first couple of years I was here, [New Orleans] didn't have the energy that it currently has," Richey says. "Hopkins alumni want to plug into the dynamism of the city."

## BUILDING BRIDGES

Written by | LISA BELMAN

While many families with young children spend spring break relaxing at the beach or visiting Disney World, Terri McBride, SAIS '99, and her family spent their break last year at the ancient port of Butrint in southwest Albania. “We thought nothing of getting up at five in the morning to take the ferry—retrofitted with airplane seats—from Corfu to Butrint,” McBride says with a laugh. Exploring this ancient archaeological site, situated on the Straits of Corfu, was pretty standard fare for McBride, her husband, Kevin O’Neill, and their three sons, Jackson, 9, Whitman, 7, and Quinlan, 5. “We love history, archaeology, being outdoors, and exploring places that we have never seen before,” McBride says. “This is so completely normal for us.”

McBride, who lives in London, brings this sense of adventure to her new position as president of the Johns Hopkins Alumni Council, the governing body of the Alumni Association. “It’s Terri’s international perspective—we have chapters everywhere from Baltimore to New Delhi—that makes her such an extraordinary representative for today’s Alumni Association,” says Susan deMuth, executive director of Alumni Relations.

When asked why she travels from her home in London several times a year to stay involved with the university and the Alumni Association, McBride says, “Whether it’s looking at Woodrow Wilson’s application to Johns Hopkins at the Brody Learning Commons’ grand opening [last] October, or sitting on the board of trustees, I come away more enriched. And I get to meet exceptional people from all across the nine divisions of Johns Hopkins.”



While Terri McBride was in Baltimore for a board of trustees meeting last December, she and her son Jackson examined several ancient artifacts from the collections at the Johns Hopkins Archaeological Museum.

It’s the personal relationships and finding the commonality among diverse groups of people that have bonded McBride to Johns Hopkins, beginning with her student days at the Paul H. Nitze School of Advanced International Studies, where she earned a dual MA/MBA degree in international economics and finance from SAIS and the Wharton School of the University of Pennsylvania. Today, McBride works for the international consulting firm McKinsey & Company in a chief operating officer/chief of staff role for the Europe, Middle East, and Africa Organization practice, helping people and organizations with complex strategic and operational problems that require making and

implementing decisions in highly collaborative environments.

Her collaborative skills and ability to appreciate different perspectives were on full display, while, in her previous role as first vice president of the Alumni Council, McBride led the council through the creation of a new long-range strategic plan. As president, she is now guiding the implementation of that plan, which includes creating a more active and engaged association. She also hopes to increase the level of interaction between alumni wherever they may be.

“While we are one university, there is no singular experience, and I believe recognizing our commonality and celebrating our differences makes us a stronger alumni association,” she says.

## 1933

**John Kopper, '33, '44 (PhD)**, lives at Roland Park Place, a retirement community in Baltimore.

## 1943

**John Henry Wolfe, Eng '43**, writes that, at 91, he is blessed with six talented children and their spouses and 12 grandchildren.

## 1954

**Herbert Fred, Med '54**, recently received the Laureate Award from the American College of Physicians, Texas Chapter. He is professor of internal medicine at the University of Texas Medical School at Houston. The award honors "those Fellows and Masters of the College who have demonstrated by their example and conduct an abiding commitment to excellence in medical care, education, or research and in service to their community, their Chapter, and the American College of Physicians."

## 1956

**Robert Forster, A&S '56 (PhD)**, professor emeritus in the Department of History in the Krieger School of Arts and Sciences, lives at Broadmead, a retirement community in Cockeysville, Maryland. He is co-teaching a class about European history in the 19th century to fellow Broadmead residents.

## 1958

**Leslie Norins, A&S '58**, writes: "Rainey and I returned to Hall Institute in Melbourne, Australia, for a reunion in August 2012. I had studied there in 1962-64 as a post-doc, with Sir Macfarlane Burnet, Nobel laureate [in physiology or medicine, 1960]."

## 1960

**Richard G. Shugarman, A&S '60**, was recently appointed to the Florida Board of Medicine. Shugarman, an ophthalmologist, is founder and president of Palm Beach Eye Associates in Palm Beach County.

## 1963

**Peter Dow, Eng '63**, has retired from pharma development following 25 years with Bayer.

**Thomas Gleason, A&S '63, '68 (PhD)**, writes: "Nearly retired at this point, but still serving as a consultant with the company I founded. My textbook on unmanned vehicle systems has just been published by John Wiley & Sons Inc."

**Felix Hughes III, A&S '63**, retired after 33 years as a radiologist at Virginia Beach Hospital. He is an associate professor of radiology at Eastern Virginia Medical School and clinical associate professor at the Medical College of Virginia.

**Paul Krouner, A&S '63**, writes: "I have been the owner/director of Camp Schodack, a children's overnight camp, for 42 years. I am the third generation of the Krouner family on the current property, and my son, Matt, will be a fourth-generation owner."

**Hugh Loebner, A&S '63**, is the sponsor of the Loebner Prize in Artificial Intelligence. Each year since 1991, a prize is awarded to the most humanlike computer.

**John A. Morgan, Engr '63, Bus '69 (MS)**, retired as vice president at Verizon in 1991 and two years later moved to Durham, North Carolina, where he established a home automation business that operated until 1999.

**Hobart "Bart" Noll, Engr '63**, writes: "I retired from the U.S. Army Ordnance Corps in September 1991 in the rank of colonel, following 28 years of

active duty service." In 1991, he joined Management Technology Associates Inc., a defense contractor located in Huntsville, Alabama, and retired in 2005 as vice president for operations.

**William "Bill" O'Connor III, Engr '63**, retired as vice president of engineering operations at Black and Decker and DeWalt Power Tools.

**Samuel Rifman, Engr '63, '70 (PhD)**, is still doing research about plastic pollution in the oceans and volunteers in public education.

**Richard "Dick" Webster, A&S '63**, reports: "To help individuals experience greater personal fulfillment and prosperity, I give a thought-provoking, inspiring talk to any organization or institution whose people are willing to reassess their values, attitudes, behaviors, relationships, and priorities."

## 1967

**Arthur W. Weinman, A&S '67**, is principal of a Fort Worth, Texas, architectural firm that bears his name. This fall, the firm was recognized for work on three historic preservation projects, including St. Peter's Catholic Church in Lindsay, Texas, and the Tarrant County Courthouse Clock Tower, which are both listed on the National Register of Historic Places.

## 1968

**William Hunt, A&S '68**, writes: "We have five grandchildren! We both are still working full time and love to boat on the Chesapeake."

## 1973

**Marvin Egoif, A&S '73**, received the Commander's Award for Civilian Service in 2011 from the

U.S. Army for work with Base Realignment and Closure at the Aberdeen Proving Ground. He also performs as a professional musician with recording artist King Lewman and other groups.

**Jeffrey Epstein, A&S '73**, says he is "still very close with my ZBT Annex roommates from '71 and '72."

**Jeffrey Gaitz, A&S '73**, has been in private practice in neurology for 31 years. His daughter, Simone, lives in New York and works at Giorgio Armani. His son Zachary plays varsity lacrosse at Wesleyan University, and his son Ethan is a high school all-state swimmer.

**Matthew Kline, A&S '73**, and his sister, Sarah E. Kline, are co-founders of Blackbird Savory Pies. Matthew also founded Kline and Company, a continuous quality improvement multimedia training business. He has cooked professionally at Chris Schlesinger's East Coast Grill and other restaurants.

**Irvin Litofsky, A&S '73**, writes: "I'm still playing trumpet in the JHU Band, as I have been since freshman year. Professionally, I'm still pursuing my life of crime. I've also started teaching part time in the graduate program in forensic science at Stevenson University."

**C. Scott Sharnetzka, Peab '73 (MM)**, was inducted in November into the Harford County Public Schools Educator Hall of Fame. He retired in 2003 after teaching high school music for 30 years in the suburban Baltimore school system and remains active in the local music community.

**Robert Charles Young, A&S '73**, is past chair of the estate and trust law section of the Maryland State Bar Association and a fellow of the American College of Trust and Estate Counsel. He enjoys life with his wife, children, and five dogs, as well as traveling and going to concerts.

## 1974

**Marcie B. Ries, SAIS '74**, was sworn in as U.S. ambassador to the Republic of Bulgaria on September 5, 2012. She is a senior foreign service officer with 34 years of experience in Europe, the Caribbean, and the Middle East and specializes in national security and political-military matters. She previously served as principal deputy assistant secretary for European and Eurasian affairs, minister-counselor for political-military affairs in Baghdad, and was the U.S. ambassador to Albania from 2005 to 2007.

## 1978

**Richard Lorraine, A&S '78**, is lead physician in an internal medicine/family medicine group practice. He is also serving as principal investigator for 12 research protocols and is commissioned as a lieutenant colonel in the Pennsylvania Air National Guard.

**John Poole, A&S '78**, is chair of the Medical Society of New Jersey political committee and serves on the board of directors of AMPAC, the American Medical Association's political action committee. He was director of the Department of Surgery at Holy Name Medical Center from 2002 to 2011.

**Amy Rehfield, A&S '78**, is the medical director for a mental health agency in Asheville, North Carolina, and her husband works for the U.S. Department of Veterans Affairs. They have four children, three of whom are overseas involved in educational and humanitarian endeavors.

**Steve Rubin, A&S '78**, is assistant professor at the University of Medicine and Dentistry of New Jersey School of Osteopathic Medicine, in the departments of Family Medicine and Neuro-muscular Medicine/Osteopathic Manipulative Medicine. He is also

an assistant professor at the New York-based Touro College of Osteopathic Medicine in the departments of Family Medicine and Primary Care.

## 1979

**Stuart W. Davidson, A&S '79**, is an attorney with the Philadelphia union-side firm Willig, Williams and Davidson. He was one of the firm's nine employment, labor, and workers compensation attorneys selected by their peers for inclusion in *The Best Lawyers in America* (2013).

## 1980

**Uma Sundaram, Engr '80**, director of the West Virginia Clinical and Translational Science Institute, is the principal investigator of a five-year \$19.6 million IDeA CTR grant recently awarded by the National Institutes of Health. This grant will be used to develop infrastructure for clinical and translational research in West Virginia.

## 1981

**Michael Laposata, Med '81, '82 (PhD)**, was awarded the Excellence in Teaching Award from the College of American Pathologists in September 2012 in recognition of his expertise in coagulation and his effectiveness as faculty for the CAP annual meeting for the past several years. He is the Edward and Nancy Fody Professor and executive vice chair of the Department of Pathology, Microbiology, and Immunology at Vanderbilt University and pathologist-in-chief and director of the division of laboratory medicine and clinical laboratories at Vanderbilt University Hospital.

## 1983

**Haswell Franklin, A&S '83**, reports: "I run my own financial

services firm with a national practice with my three brothers. We work with many physicians and businesses throughout the country. My fourth child, Drew, was born September 17, 2011."

**Doug Gneiser, A&S '83**, traveled to Turkey in 2012 to celebrate the pending retirement of his former Hopkins roommate, "fellow ROTC-er, and Gildersleeveian,"

**Pat Gillis, A&S '83**, who has been on active duty with the U.S. Army for over 29 years.

**Chris Hampton, A&S '83**, writes, "I am most proud of having three sons attend Johns Hopkins." Hampton has been teaching at Miss Porter's School, a boarding and day school for girls in Farmington, Connecticut, for 19 years.

**Ethnie Jones, A&S '83, Med '87**, is a partner at Virginia Eye Institute and is enjoying life after raising two beautiful children.

**Ronald W. Peppe II, A&S '83, SAIS '86**, serves on the City Council of Falls Church, Virginia, and is also vice president of legal and human resources for Canam, an international construction and manufacturing company.

**Ashvin Ragoowansi, A&S '83**, has worked as a neurosurgeon in Pittsburgh for the past 20 years and is busy with six children.

**Joshua Reiter, A&S '83, Ed '94 (EdD)**, served as a Baltimore Marathon pacer, volunteering to run at the four-hour pace to help other runners meet their goals in the October 2012 race. He is currently an adjunct faculty member in the Whiting School of Engineering, where he raps in class at the start of each semester.

**Eric Reuling, Engr '83**, founded Reuling Associates Inc. in 1993. Based in Baltimore, the firm provides geotechnical engineering services and construction materials testing and inspection.

## 1984

**Nancy E. Roman, SAIS Bol '84, SAIS '85**, assumed in January the presidency and CEO position of Capital Area Food Bank, the leader of hunger relief efforts in the Washington, D.C., area since 1980. She previously served as director of public/private partnerships and communications at the United Nations' World Food Programme.

## 1988

**Sarah Ashe-Donnem, A&S '88**, is a part-time school consultant and enjoys staying home with her children the rest of the time.

**Jennifer Varrell Bonner, A&S '88, SAIS '89**, has lived in Beijing since 2009 and plans to move back to Washington in the summer of 2013.

**David Drosinos, Peab '88**, a clarinetist, released his album *Portals* in 2011 with the St. Petersburg Symphony Orchestra, featuring the world premiere of the Sowash Clarinet Concerto. He is an instructor with the Peabody Preparatory and also teaches at Shepherd University and the Baltimore School for the Arts.

**Vandana Kumra, A&S '88**, is in solo ear, nose, and throat practice in New York City.

**Ed Marsh, A&S '88**, launched Consilium Global Business Advisors, a consultancy to help American small businesses internationalize their businesses.

**Evan Reiter, Engr '88**, writes, "I've passed 20 years of wedded bliss with my bride and have three great kids. Life is good!"

**Saurin Shah, A&S '88**, wrote a chapter on the electrification of road transportation in the book *Plug-In Vehicles: What Role for Washington?* (Brookings Institution Press, 2009) and was named co-portfolio manager of a global equity fund in 2011.



### Martial Arts, Re-engineered

After his son lost a junior national tae kwon do championship because a judge logged a point a hair too late, Jin Song, Engr '79, got mad—and decided to do something about it. Twelve years later, at the 2012 Olympic Games in London, the Silicon Valley–based systems engineer sat alongside judges to monitor the Truescore point scoring system, his sensor-based automated invention that has scored more than 30,000 tae kwon do matches since 2006. “In tae kwon do, a good athlete can do four kicks in one second,” says Song, himself a tae kwon do black belt who trained while studying biomedical and electrical engineering at Home-wood. “Judges have to react quickly, and sometimes aren’t quick enough. Automating this part of scoring takes away that problem.” Since patenting the technology, Song has set up corporate headquarters in Fremont, California. The next challenge? Preparing for the upcoming tae kwon do world championships in Mexico, as well as developing a new product that will target mainstream fitness users. **NORA GEORGE, A&S '11 (MA)**

## 1989

**Joanne Berger-Sweeney, SPH '89 (PhD)**, was appointed to the board of trustees of Framingham State University. She is a distinguished neuroscientist and dean of the School of Arts and Sciences at Tufts University.

care diagnostic testing developer, manufacturer, and marketer. She has also held senior leadership positions at corporations including Becton, Dickinson and Company and MDS Proteomics Inc. and is founder and president of her own advisory consulting firm.

## 1990

**Caroline Popper, SPH '90, HS '91, Med '92 (PGF)**, was appointed to the board of directors for Rapid Pathogen Screening, a point-of-

## 1991

**Melody Swartz, Engr '91**, was selected as a MacArthur Fellow for the Class of 2012. She is a

bioengineer and professor at the Institute of Bioengineering at École Polytechnique Fédérale de Lausanne in Switzerland. In her work, she applies principles and methods from engineering and physiology to discover the mechanisms controlling the movement of biologic fluids through tissue and the implications for human health.

## 1993

**Nicole Altneu, SAIS Bol '93 (Dipl), SAIS '94**, was chosen from thousands of applicants to join the Climate Reality Leadership Corps. She spent three days last August training with Al Gore and the staff of the nonprofit Climate Reality Project. As a volunteer climate leader and environmentalist, Altneu aims to ensure that adults, children, and wildlife have a future on this planet.

**Jack Lipkin, A&S '93**, writes: “After 13 years in a special technical publishing role in the pharmaceutical industry, I am happy to return to my journalistic roots and focus on managing electronic and video communications as well as directing global events in big pharma. It has been an interesting journey, and I credit the skills and knowledge I developed at the *Hopkins News-Letter* for my success.”

**Linda Brown Rivelis, Bus '93**, is owner of Campaign Consultation Inc., recognized by *Inc.* magazine in August 2012 as “one of the top 500/5000 companies in America.” The firm works with organizations to achieve success in community development, fundraising, diversity utilization, issue advocacy, media and marketing, and public policy, as well as organizational and business development.

## 2001

**Julien Aubert, SAIS '01**, was elected to the French legislature in June 2012. He represents the province of Vaucluse in south-eastern France.

**Isabella Maldonado, A&S '01**, lives in Houston where she teaches Spanish and also instructs Zumba workout classes. After Superstorm Sandy, she organized a Zumba fundraiser to support hurricane relief efforts on Long Island.

## 2002

**Alicia M. Novak, A&S '02**, and **Arash Mostaghimi, Engr '02**, welcomed their second daughter, Violet Novak Mostaghimi, to the world on September 28, 2012.

## 2003

**Alexander Miceli, A&S '03**, and **Antonia (Badway) Miceli, A&S '03**, welcomed their son, Alexander Anthony Miceli, on August 31, 2012.

**Nneka Nzegwu, A&S '03**, graduated in May 2012 with a doctorate in politics and education from Columbia University.

**Brian Pluim, Ed '03 (MAT), '05 (Cert)**, principal of Westside Elementary School in Baltimore City, won the Mayor’s Attendance Campaign last September. Under his leadership, students’ attendance in pre-kindergarten and kindergarten increased from 89 percent the previous year to 95 percent last fall.

**Daniel Wen, A&S '03**, started graduate school in the fall of 2012.

## 2004

**John “Jay” Johnson, Bus '04 (MBA)**, became president of Software AG USA Inc. and member of the Group Executive Board of the company on August 1, 2012. He was previously senior vice president at MicroStrategy.

## ALUMNI NEWS &amp; NOTES

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## GOLOMB'S ANSWERS

## Some Endings

Solutions (Puzzle on page 67)

- The following stems can end in both *-ful* and *-less*: *arm, art, brim, care, cheer, color, doubt, eye, faith, fancy, fear, flavor, fruit, gain, grace, hand, harm, heed, help, hope, joy, meaning, merci, mind, mirth, mouth, need, pain, pity, power, regard, rest, right, shame, sorrow, soul, tact, taste, thank, thought, tooth, trust, tune, use*. (All are adjectives except the nouns that result when *-ful* follows a body part—e.g., *armful, handful*—to indicate quantity.)
- condom, random, seldom, wisdom*. (But *wisdom* really comes from *wise-dom*.)
- Five letters: *entry, retry*. Six letters: *gantry, gentry, paltry, pantry, pastry, poetry, sentry, sultry, vestry, wintry*. (Note that *entry* and *wintry* come from *enter* and *winter*. Also, *gentry* and *poetry* add *-ry* to *gent* and *poet*, while *pastry* does not come from *past* but from *paste*. Finally, the *vestry* was originally the room in a church where *vestments* were kept.)
- fearsome, flavorsome, handsome, toothsome*. (My dictionary also lists *joysome* as rare, and *gainsome* as obsolete.)

## 2005

**Euna Lhee, A&S '05, Peab '05**, is a reporter based in Berlin, and a Fulbright Young American Journalist. She is a contributor to NPR Berlin and is investigating the 2011 measles outbreaks as a visiting researcher at the Robert Koch Institute.

**Joycelyn Y. Tate, SAIS '05 (Cert)**, was chosen to serve as a member of the U.S. delegation to the 2012 World Conference on International Telecommunications in Dubai, United Arab Emirates. She served as an adviser on proposals negotiated during the conference on behalf of the United States. The International Telecommunications Union, an agency of the United Nations, convened the conference to review and update the current International Telecommunications Regulations, which serve as the binding global treaty outlining the principles that govern how international voice, data, and video traffic is handled. The ITRs, which were last negotiated in 1988, were updated to reflect the dramatically changing information and telecommunications technology landscape of the 21st century.

## 2008

**Ken Babby, Bus '08 (MBA)**, is the new owner of the Akron Aeros, a Double-A affiliate of the Cleveland Indians baseball team and 2012 Eastern League champions. Babby previously spent 12 years with *The Washington Post*.

**Michael Bisogno, Engr '08**, reports that after a year of working for medical technology giant Stryker he decided to go to medical school.

**Rebecca Gale, A&S '08 (MA)**, was promoted to contributing editor at CQ Roll Call, a media company that covers Congress. Previously she had been the company publicist, and before that she worked on Capitol Hill.

**Joseph Redd, A&S '08**, was promoted to chief administrative officer for the Maryland Department of Health and Mental Hygiene, Office of Oral Health.

**Corey Sattler, A&S '08**, is a full-time independent artist and author also known as C. Alexander, who supports his art by running his own building and contracting company in Baltimore.

**Rajiv Shenoy, Engr '08, '12 (MS)**, came up with the idea for Orca TV—which provides interactive advertising opportunities on college campuses—while he was still a student at Hopkins. Today, he co-runs the business with his mother.

## Way With Words

*As a speechwriter for New York Gov. Andrew Cuomo, Arielle Goren, A&S '05, says her job requires writing skills, political savvy—and ESP. “My co-workers joke that I’ve mastered the art of the Vulcan mind meld,” Goren says. “We’ll be watching [the governor] unscripted in press conferences, and I’ll say what he’s about to say.” It’s not really mind reading: Goren invests a lot into learning the personalities and speech patterns of her “principals,” so that when the time comes she knows not just what they should say but also how they would say it. “If you can get in someone’s head and express something the way they would express it—and hopefully even a little bit better—you’ve done your job,” she says. Goren has been Gov. Cuomo’s senior speechwriter since late 2011; prior to that, she honed her craft by working as deputy communications director and speechwriter for U.S. Sen. Chuck Schumer in Washington, D.C., and Mayor Antonio Villaraigosa in Los Angeles. MARIANNE AMOSS*



PHOTOGRAPH BY GISELE LUSSEN

## IN MEMORIAM

**Walter H. MacWilliams Jr., Engr '36, '41 (PhD)**, October 14, 2012, Lenox, Massachusetts.

**Morton R. Shaw Jr., Engr '36, '40 (PhD)**, September 13, 2012, Raleigh, North Carolina.

**Harold Andrew "Ric" Ricards Jr., Engr '39**, August 29, 2012, Houston.

**Jeannette A. Hunt, Nurs '40 (Dipl)**, June 30, 2012, Northport, Michigan.

**Daniel D. Friel Sr., Engr '42**, September 21, 2012, Greenville, Delaware.

**Robert E. "Bob" Mason, Med '42**, October 29, 2012, Lutherville, Maryland.

**Werner Rueggeberg, Engr '42, '49 (PhD)**, September 23, 2012, Lancaster, Pennsylvania.

**Margaret Harlan Ellis, Nurs '43 (Dipl)**, November 3, 2012, Jarrettsville, Maryland.

**Elizabeth Keckler, Nurs '46 (Dipl)**, September 6, 2012, Woodford, Virginia.

**James Roncie Duke, Med '48, HS '52**, October 16, 2012, Baltimore.

**William C. Farrell Jr., Engr '48**, September 4, 2012, Annapolis, Maryland.

**Bernard Victor Gerber, Engr '48, '51 (MS)**, November 15, 2012, Baltimore.

**Henry N. Wagner Jr., A&S '48, Med '52, HS '59**, September 25, 2012, Baltimore.

**Frank Moore Cross Jr., A&S '50 (PhD)**, October 16, 2012, Rochester, New York.

**Esther H. Hansen, Ed '51**, May 25, 2007, Surprise, Arizona.

**Edward Shilling Hodgson, A&S '51 (PhD)**, October 22, 2012, Concord, Massachusetts.

**Zell C. Hurwitz, A&S '52**, September 20, 2012, Pikesville, Maryland.

**Jack Howard Taylor, A&S '52, (PhD)**, October 26, 2012, Memphis, Tennessee.

**Neil-Pape Williams Waring, HS '52**, October 20, 2012, New Orleans.

**Alfred J. Coulombre, A&S '53 (PhD)**, July 15, 2012, Bethesda, Maryland.

**Gerhard Schmeisser, Med '53, HS '54, '58**, September 23, 2012, Baltimore.

**Alan G. Birtch, A&S '54, Med '58**, December 28, 2011, Springfield, Illinois.

**Robert S. Donoho, Med '54, HS '58**, November 7, 2012, Zanesville, Ohio.

**Reubin Andres, Med '55 (PGF)**, September 23, 2012, Baltimore.

**Mary Elizabeth Adams "Betsy" de Groot, Nurs '55 (Dipl), Ed '66, '87 (MS)**, September 2, 2012, Mount Laurel, New Jersey.

**Saul Genendlis, Ed '56, '58 (MEd)**, September 25, 2012, Hampstead, Maryland.

**Franklin V. Peale, Med '56**, November 4, 2012, Pittsford, New York.

**E. William "Bill" Scriba, Bus '57**, August 28, 2012, Towson, Maryland.

**Robert Clews Wheeler II, A&S '57**, October 22, 2012, Fredericksburg, Virginia.

**Louis J. R. Kady, A&S '58**, September 15, 2012, Holmdel, New Jersey.

**Richard H. Howarth, SAIS '59**, October 28, 2012, New Hartford, New York.

**Francis Hugh Thomas, SAIS '60**, October 25, 2012, Charleston, South Carolina.

**Peyton R. Wise II, A&S '61 (MA)**, November 4, 2012, Baltimore.

**Dorothy R. Gilbert, SPH '62**, November 2, 2012, Pittston, Pennsylvania.

**Winston Paulding Caine Jr., Med '63**, October 23, 2012, Signal Mountain, Tennessee.

**Alvin Richmond, Engr '63**, February 17, 2012, Manistee, Michigan.

**Bertram Wyatt-Brown, A&S '63 (PhD)**, November 5, 2012, Baltimore.

**Margery K. "Margie" Pozefsky, Bus '64**, September 14, 2012, Baltimore.

**Janet Browne, Bus '65**, October 12, 2012, Towson, Maryland.

**Frances H. Trimble, SPH '66**, October 19, 2012, Baltimore.

**Donald C. Caldwell, Ed '67**, August 10, 2012, Silver Spring, Maryland.

**John F. Thornton, A&S '67**, November 8, 2012, Lawrence, Kansas.

**Esther "Penny" Love, Ed '69 (MEd)**, September 17, 2012, Baltimore.

**Robert James Cotter, A&S '71 (MA), '72 (PhD), Med '79 (PGF)**, November 12, 2012, Baltimore.

**Margaret Mary Callan Hagan, SPH '71**, September 3, 2012, Media, Pennsylvania.

**Pieter Croissant Wensink, A&S '71 (PhD)**, October 2, 2012, Wellesley Hills, Massachusetts.

**Margaret J. Danner, Bus '72**, October 4, 2012, Harrisburg, Pennsylvania.

**George Moeckel, Engr '73 (PhD)**, October 5, 2012, Duncanville, Texas.

**Daniel Frias Negrete, HS '78**, August 23, 2012, DeLand, Florida.

**Frances F. Trader, Bus '78, A&S '81 (MLA), '85 (Cert)**, September 28, 2012, Baltimore.

**Carolyn Rosenstein, Ed '79 (MS)**, October 27, 2012, Pikesville, Maryland.

**Bernard Jay "B.J." Land, A&S '82**, September 10, 2012, Reisterstown, Maryland.

**Craig Thomas Aronhalt, A&S '83**, November 3, 2012, Glen Mills, Pennsylvania.

**Elizabeth "Liz" O'Hearn, Med '85, '86 (PGF), '93 (PGF), HS '92**, November 15, 2012, Baltimore.

**Kate Carus, Engr '86**, October 26, 2012, Chicago.

**Jason B. Spiers, Engr '87**, November 4, 2012, Charlotte, North Carolina.

**Susan Alice Bardwell, HS '97, '07, Med '07 (PGF)**, August 25, 2012, Plymouth, Indiana.

**Cascelia S. "Cici" Burgess, Ed '05 (EdD)**, September 20, 2012, Baltimore.

## THE SMART SET

Written by |  
KRISTOPHER JANSMA, A&S '03

*The Smart Set* was *The New Yorker* of the early 1920s, featuring fiction by F. Scott Fitzgerald, O. Henry, Willa Cather, Dorothy Parker, James Joyce, and many more. As a student in the Writing Seminars, I imagined that these young unknowns had emerged as literary giants from the pages of *The Smart Set* the same way that brilliant writers—myself included—would spring up from our Introduction to Fiction and Poetry 1 course.

Until, as a sophomore in one of Professor John Irwin's classes, I learned that despite *The Smart Set*'s star power, editor H.L. Mencken had to siphon profits from mass-market monthlies like *Black Mask* and *Saucy Stories* to keep his sophisticated magazine afloat. I'd not realized that, even decades before television, good fiction had been a hard sell—and suddenly, to try and write it seemed an increasingly lonely prospect.

The Sheridan Libraries keep original issues of *The Smart Set* in Special Collections. They weren't there when I was a student, but if they had been, I'd never have known. At the time I believed writers ought to avoid libraries like tired clichés. How could you write about people if all you read were books? I rarely kept up with assigned readings and I wrote my stories the night before they were due, often while my friends watched television in the same room.

By my senior year, I'd begun writing in the quiet hours before everyone else woke up, or after they'd all gone to sleep. I struggled for months to finish one story, but the ending kept eluding me. Finally I went to see my

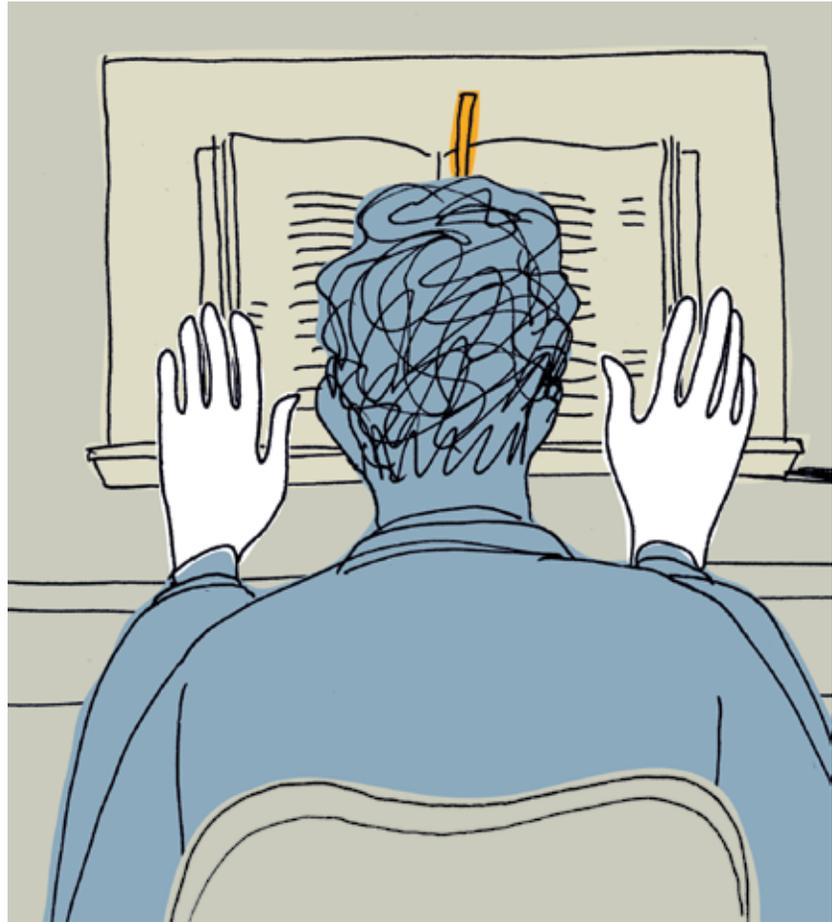


ILLUSTRATION BY GUIDO SCARABOTTOLLO

professor, Jean McGarry, and she recommended I read Conrad Aiken's "Silent Snow, Secret Snow." Planning to check the book out of the library and flee, I ventured down to M-Level for the first time and asked for help.

The only copy they had was in Special Collections, a library within the library, full of rare books that could never be checked out. The librarian led me into a windowless room and placed the fragile Aiken book on a lectern. I was to turn the pages by slipping a piece of string between them. Scared to even breathe, I read that story more slowly than I'd ever read anything in my life. I don't even know how long I was down there. I'm not sure I ever left.

These days, I teach classes and hold office hours in a college library. I wrote most of my first novel at the tutoring desk there. On weekends I go to the special collections of museums and libraries to write about rarities like *The Smart Set* for another innovative literary magazine that is always trying to make ends meet. Thankfully, I still see many of my old college friends, my smart set. But now, when I spend time with them, there is a part of me that's always elsewhere—in a library within a library, quietly moving pages with lengths of string.

**Kristopher Jansma** is the author of the novel *The Unchangeable Spots of Leopards* (Viking/Penguin, 2013). He teaches creative writing and writes a monthly column for *Electric Literature*. He and his wife live in New York City.

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