Comfort Zones
Living better in the shadow of serious illness
Sometimes, the most intriguing career path is off the beaten one.

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“I’m definitely outside the establishment … I’m a gypsy and I prefer that—there’s so much more freedom to work with different kinds of people in industry, academia, in different companies.”

Hugh Rienhoff ’82, who launched “The Bea Project” to find answers to the genetic condition afflicting his young daughter (below).

p. 30
Johns Hopkins is widely known as a place where medical miracles seem to happen every day—a place where the best minds labor (often successfully) to find treatments and cures for all kinds of difficult illnesses. In the words of one administrator here, “Our docs can always pull some rabbit out of a hat.”

And, in fact, we proudly share accounts of these medical magic acts in every issue of this magazine.

With this issue, however, we depart from this curative focus to look at specialists who are delivering Hopkins-level excellence along a parallel path. Known as palliative care, it’s aimed at treating the symptoms of serious illness rather than the disease itself, and it is rapidly gaining a foothold here, as you’ll discover in Jim Duffy’s cover story, “Comfort Zones.”

The timing couldn’t be better, nor the conditions within the field of health care more propitious. Palliative care exists in harmony with medicine’s growing emphasis on “patient-centered” care, by offering an individualized approach that relieves pain and suffering and creates the best possible quality of life for patients at any stage of illness. It also saves money, by avoiding expensive hospital admissions (and readmissions) and instead keeping patients at home, with their families, where they can make the most of their time together.

Within a medical environment like Johns Hopkins, which exalts the curative power of medicine, the effective delivery of palliative care represents a different kind of “success” story: one that is worth sharing, and celebrating.

As an applicant for the Class of 1955, I was interviewed by Dean Chesney. I’d been forewarned that if the Dean raised his hand to his ear, that signified that he’d heard enough and was turning off his hearing aid! But no one told me what that meant.

Sure enough, as I waxed eloquent about how I had been inspired to pursue medicine after reading in Microbe Hunters about Metchnikoff’s theory that lactobacillus protected the gut against pathogens, Dr. Chesney arose and strolled over to the window, where he raised his hand to his ear. Taking this as an ominous sign, I concluded my remarks and withdrew, and was doubly relieved when I was later informed that I’d been admitted.

Dr. Mountcastle states that Dr. Chesney’s one major fault was not accepting federal funding [Annals, Spring/Summer 2012], but then describes him as being highly opinionated and never laughing. This amused me because Dr. Chesney struck me, at least in his later years, as a reassuring father figure—in contrast to the then young Dr. Mountcastle who was, at least for us med students, a brilliant but humorless and decidedly fearsome presence!

It even seems likely that Dr. Chesney was quite aware of the story about turning off his hearing aid during interviews, and just did it to satisfy his young interviewees … and maybe display his quiet wit!

Nicholas Cunningham, MD ’55, Dr PH ’77
A New Hospital—And a New History

Leading the Way: A History of Johns Hopkins Medicine

With the opening of a new Johns Hopkins Hospital comes a new history of Johns Hopkins Medicine—the first in more than 20 years.

Leading the Way: A History of Johns Hopkins Medicine offers a lively, lavishly illustrated account of the exceptional achievements of Hopkins physicians, researchers, teachers, and students since 1889, especially the extraordinary, previously unchronicled expansion and accomplishments of Hopkins Medicine over the past two decades.

Written by Neil A. Grauer and featuring more than 400 photographs, many of them in color, Leading the Way provides all those interested in the story of Johns Hopkins Medicine—or even just in the advances in medicine itself over the past 20 years—with the riveting story of how Hopkins remains in the forefront of medical education, research, and patient care.

$60.00
Your first week on the job coincided with the aftermath of a summer “derecho” that left parts of Baltimore without power for a week...

So I walked into a blackout. My wife was laughing because when I took the dean job at the University of Iowa, the day I was approved by the board there was a huge flood in Iowa City, and I actually had to close the medical school for a week. That was my first act as dean. So I guess I’m used to coming in under adverse conditions.

What most excites you about your new role?
The opportunity to work with the outstanding people at Hopkins. People here are committed to developing new systems of care that are cost-efficient and of the highest quality, with a focus on the patient and on patient safety. I’m also excited by the amazing quality of education and research here. Many places have seen drops in funding over the last several years but Hopkins continues to grow in research.

How will your background in basic science color your approach to Hopkins’ research enterprise?
I know the life of scientists, and I’ve been a great advocate of basic science. I understand how important basic science is to moving all discovery forward and that it’s the basis for finding treatments for disease.

What is your strategy for moving forward with any change here?
Before I do anything, I really want to understand Hopkins’ culture. I think I understand the value system, but I want to know it well. I’ve started to gain knowledge of the people and the institution, but over the next couple of months I want to solidify that and get a much better understanding of the place.

What do you see as your greatest challenges?
We’re in a time of change in health care. The country needs institutions to step up and develop systems of care, and that’s a big challenge, especially for academic institutions. But I think we’re up for the challenge. Hopkins has to lead in developing a cost-effective system that continues to deliver high-quality and safe care.

The restraint of federal spending, both in terms of health care and research, is going to be a challenge. I’m really worried about flat NIH budgets. I know that the nation is committed to medical research and helping to find treatments for disease. I understand that there are financial constraints to that, but I think it would be shortsighted to really cut NIH.
While your long-term plan is still percolating, what’s on the shortlist?
The shortlist is to develop a strategic plan. We have to think about where the institution is going to go in the next three to five years, so that’s my primary goal right now. And that’s a process that involves many people and a lot of input, and a system to make sure that we have people on board to get where we want to go.

What do you see as the role of collaboration?
Selflessness obviously is the heart of collaboration. I think scientists love to collaborate—it’s inherent to them. Sometimes we put up administrative barriers that inhibit the natural flow of science. The people who are successful are the people who are oblivious to those barriers and go ahead and make sure science gets done. My job is to facilitate that and make sure that there aren’t any barriers for the flow of science.

For clinical activity, collaboration is also key. Again, there are systems of reimbursement and administration that sometimes don’t allow the natural flow of care across disciplines to take place in a patient-centered way. Our goal now is to overcome anything that would inhibit a collaborative approach to our patients and refocus on patient-centered care.

Family: Wife, Frances Jane Meyer, a clinical gastroenterologist, and three children: Alissa, a sophomore at Amherst College; Daniel, a freshman at Brown; and Eric, a ninth-grader at Friends School of Baltimore

Pets: “Arwen,” a rescue dog that is part black Lab, part Australian sheep dog. “Libby,” the first cloned ferret in the world (“She’s published”)

Meeting a Burning Need
Mobile apps address health needs worldwide.

In January 2009, on the outskirts of Nairobi, an overturned tanker gushed thousands of gallons of gasoline, attracting a crowd that attempted to collect the spilt fuel. Nearly 100 died in the explosion that ensued, and almost twice as many sustained burn injuries, inundating local hospitals that were ill-equipped for the catastrophe.

As part of a Johns Hopkins Burn Center team deployed to help, director Stephen Milner witnessed firsthand the human devastation—inspiring him to seek an effective way to teach others how to properly care for burn victims. The result? A mobile application that is now available online for medical students and physicians.

The Burn Center product is among a fast-growing number of mobile apps being developed throughout Johns Hopkins to provide health and medical information to physicians, medical students, emergency medicine personnel, and global health workers.

Born out of a collaboration with Harry Goldberg, assistant dean and director of academic computing for the School of Medicine, the Burn Medical Education app, or BurnMed, utilizes a combination of pictures, video, and text to illustrate how to handle victims in the eight hours following a burn—a period critical for survival. For example, by highlighting burned areas on a rotatable 3-D figure of a man, woman, or child using an iPad or iPhone, the user can quickly calculate how much fluid to administer.

“This app is designed so the user can understand the underlying procedures used to treat a burn victim within a few minutes,” says Goldberg. “In a textbook, one could read several chapters and they still may not understand these procedures due to the limits of text.”

Milner says apps are fast, accurate, and accessible in comparison to traditional treatment methods that involve complex mathematical equations. Two-dimensional textbook charts don’t show the surface area of the sides of the body, top of the head, and bottom of the feet—a shortcoming, he says, that could lead to dangerous miscalculations, as too little or too much fluid can be lethal.

Milner and Goldberg are just two of many across Hopkins who’re developing applications designed to impart medical knowledge. “This is another way to share the Johns Hopkins values, mission, and brand with places we have not yet reached internationally,” says Montserrat Capdevila, of the university’s Tech Transfer Office.

Visit the iTunes store or Google play for the following apps:
- Johns Hopkins Antibiotic Guide
- Johns Hopkins Atlas of Pancreas Pathology
- Johns Hopkins BurnMed (Pro and lite versions)
- Johns Hopkins Diabetes Guide
- Johns Hopkins eMOCHA
- Johns Hopkins eMOCHA TB DETECT
- Johns Hopkins HIV Guide
- Johns Hopkins HIV Dementia Scale
- Johns Hopkins Tech Transfer App
Facebook Phenom

Social networking proves a boon to boosting organ donation.

In medicine, viruses usually are a bad thing. When a new, potentially lifesaving idea goes viral on the Internet, however, that’s something else.

Just ask Andrew Cameron ’98, surgical director of Hopkins’ liver transplant program, and Sheryl Sandberg, a former undergraduate classmate of Cameron’s at Harvard, who now is chief operating officer of Facebook.

When Cameron and Sandberg attended their 20th Harvard reunion in 2011, they got to talking. Five years before, Sandberg had read an alumni magazine profile of Cameron in which he described the anguish that transplant surgeons feel when they can’t do anything to help patients who die because of the chronic, critical shortage of donated organs in the U.S.

At the time Sandberg read that article in 2006, Facebook was only two years old—but by 2011 it had become an Internet social networking behemoth with millions of subscribers. As Cameron and she talked—and brainstormed—at their college reunion, they reached a joint epiphany. “Doctors save lives one person at a time,” recalls Cameron, an associate professor of surgery. “Sheryl is able to reach people millions at a time. We have a public health problem that really just needs education, communication, and discussion.”

Now Facebook is providing it. Since May 1, Facebook users have been able to share their organ donor status with friends, family—and the world—as they do other basic information. The information is part of the site’s new Timeline feature, which asks users to share stories and photographs.

Facebook also is making it easier for its members to obtain information about organ donation—simultaneously dispelling myths and misperceptions—and is providing links to state databases where users can make their desire to donate their organs official, just as they can do when getting their driver’s license.

Since the launch, the results of the Facebook organ donation initiative have been phenomenal, boosting the nationwide increase in registered donors by a staggering 1,183 percent in its first week.

says Cameron. “Maryland had an average of 10 donors per day prior to the Facebook initiative,” he says. “In the first week after it was launched, Maryland had 781 new donors sign up,” reflecting the nationwide trend. A month later, the donor registration rates still were elevated, he adds.

This is a welcome development for the more than 114,000 people requiring new livers, hearts, kidneys, and other organs throughout the U.S. One of those individuals dies every four hours while waiting for a transplant. Although the need for organ donation continues to increase, the rate of donation over the past 20 years has been almost flat, despite widespread public campaigns.

The Hopkins liver transplant program that Cameron heads is one of the most forward-looking, evidence-based ones in the nation. This year, he and his surgical colleagues will perform approximately 50 liver transplants. “Getting people to donate their organs has been an intractable public health problem,” Cameron says. “It stands in contrast to other public health campaigns such as seat belts or drunk driving, which have major impacts. If we succeed on Facebook with organ donation, it could be a model for how to use of-the-moment social media to solve important medical issues.”

Among these is the need for healthy individuals to donate a piece of their liver, rather than designate their liver for use after their death. Cameron says his program is “interested in using social media in novel ways” to facilitate living donor transplants, too.

Neil A. Grauer

Robert Adams, associate professor of molecular and comparative pathobiology, has been appointed associate provost for animal research and resources. Adams, a 35-year veteran of the faculty, has been filling the position on an interim basis, directing the care of more than 150,000 animals—mostly mice and rats—used by university researchers.

Lawrence Appel, professor of medicine and director of the Welch Center for Prevention, Epidemiology and Clinical Research, has received the 2012 National Award for Career Achievement and Contributions to Clinical and Translational Science. It was awarded jointly by the American Federation for Medical Research, the Association for Clinical Research Training, the Association for Patient Oriented Research, and the Society for Clinical and Translational Science.

Frederick Brancati, professor of medicine and epidemiology and chief of the Division of General Internal Medicine, has been named Distinguished Service Professor of Medicine by the university’s board of trustees. Such a designation is given to select, senior faculty to recognize their exemplary service. Brancati is recognized worldwide as an expert on the epidemiology and prevention of type 2 diabetes and related conditions.

Hugh Calkins, professor of medicine, cardiology, and pediatrics and director of the arrhythmia service, electrophysiology laboratory, tilt table diagnostic laboratory and the ARVD (arrhythmogenic right ventricular dysplasia) program, has been named president-elect of the international Heart Rhythm Society. Calkins also is the lead author of the 2012 Expert Consensus Statement on Catheter and Surgical Ablation of Atrial Fibrillation.

Phillip Dennis has been named director of the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Bayview and director of the Department of
Oncology. He plans to expand and integrate oncology care across departments to provide better access to cancer screening, diagnosis, and treatment. He also will lead all lung cancer treatment efforts within the center’s Upper Aerodigestive Cancer Program, including the creation of a Center of Excellence in Thoracic Oncology.

Paul Englund, professor emeritus of biological chemistry; Rachel Green, professor of molecular biology and genetics; and Se-Jin Lee, professor of molecular biology and genetics, have been inducted into the National Academy of Sciences, one of the United States’ top scientific honors.

Pamela Lipsett, professor of surgery, has been given the 2012 Woman in Science Award from the American Medical Women’s Association. The award is bestowed on a woman physician who has made exceptional contributions to medical science, especially in women’s health.

Constantine Lyketsos, professor and director of the Department of Psychiatry at Hopkins Bayview, has received the 2012 American Association for Geriatric Psychiatry’s Distinguished Scientist Award, the highest national honor in geriatric psychiatry. Lyketsos is a lifetime member of the association, which strives to enhance the knowledge and practice standards in geriatric psychiatry.

Gregg Semenza, professor of pediatrics, medicine, oncology, and radiation oncology, is among three recipients of the Institute of France’s Lefoulon-Delalande Foundation Scientific Grand Prize for 2012. The award recognizes Semenza’s work at Hopkins in purifying and isolating the protein HIF-1 (hypoxia-inducible factor-1), which switches genes on and off in cells in response to low oxygen levels. Co-recipients of the award were William Kaelin Jr., a Hopkins intern and resident from 1987 to 1988 and now a professor at the Dana-Farber Cancer Institute, and Peter Ratcliffe, of Oxford University, who discovered how oxygen regulates HIF-1.

Patrick Walsh, Distinguished Service Professor of Urology and former director of the Brady Urological Institute, has been named the 2012 recipient of the American Academy of Arts and Sciences’ Francis Amory Prize. Awarded since 1940, the Amory Prize recognizes major advances in reproductive biology and medical care.

Pamela Zeitlin, professor of pediatrics, director of pulmonary medicine, and co-director of the Cystic Fibrosis Center, has received the American Thoracic Society’s 2012 Elizabeth A. Rich, M.D. Award. The honor recognizes outstanding women and leaders who have made significant contributions to the thoracic society in pulmonary, critical care, or sleep medicine.

## Parsimony’s Pay-off

Two faculty have grown a nest egg to support postdoc training.

**N. Franklin Adkinson, Jr. ’69** and his longtime colleague **Robert Hamilton, PhD ’80**, of Hopkins’ Dermatology, Allergy and Clinical Immunology Reference Laboratory, don’t consider themselves major league philanthropists.

Instead, they’ve just been very careful with the money that their lab—better known by its initials, DACI—has earned over the past three decades. They and their faculty colleagues, technicians, and fellows perform highly specialized allergy testing on blood samples they receive from clients throughout the U.S. and around the globe, all seeking assistance in the diagnosis and management of human allergic disease. Other income has come from special contracts with pharmaceutical companies that want to test the immunogenicity safety of new drugs.

DACI’s leaders also have been scrupulously frugal about how they run their operation. “I’ve tried to be diligent in bare bones expenses over many years,” says Hamilton, the lab’s director, explaining that he often saves money by doing basic research-related chores himself rather than hiring a new technician to handle them. Such parsimony and productivity produced a sizable nest egg, as Hamilton spent 30 years squirreling away any surplus funds “so we could use them for some positive purpose for this division,” he says.

This past spring, they did just that. With $600,000 in painstakingly saved surpluses, they established the Adkinson-Hamilton Educational Endowment in the Division of Allergy and Clinical Immunology. Interest from the fund—believed to be the first ever created by two faculty members with a laboratory surplus—will support postdoctoral training programs.

“In the initial years, the interest from the fund is not going to be that much, so it’s going to cover special expenses associated with our fellows program,” such as medical insurance for the fellows and board examination fees, Hamilton says. “Eventually, we may have enough interest from the fund to actually provide a stipend to the fellow. But this will take time.”

Although Adkinson notes that it was surpluses generated by Hamilton’s efforts that created the endowment fund, Hamilton insisted that it also bear Adkinson’s name.

“Dr. Adkinson and I have worked together for more than 30-odd years,” says Hamilton. “I’ve always appreciated his sage guidance, and therefore I feel he should be No. 1 on the listing. And because he’s been the director of the allergy and asthma group training program here at Hopkins for so many years, he deserves that position.”

It is hoped that the Adkinson-Hamilton Endowment will become a focal point for future divisional fundraising in support of postdoctoral fellows. While it’s too early to tell if it will, Adkinson says alumni response to the endowment’s creation so far has been “laudatory.”

**N. Franklin Adkinson, Jr. ’69** and **Robert Hamilton, PhD ’80**.
A few years back, after a checkup flagged elevated liver enzymes, forty-something Max Zacur* learned that he had hepatitis C, genotype 1. A local gastroenterologist performed a percutaneous liver biopsy—the older sort with palpation first and “blind” needle insertion. But since the resulting pathology report showed little inflammation and no fibrosis, the hallmarks of active disease, Zacur opted to bypass treatment, given its reputation for side effects and low efficacy.

Last year came a repeat: His liver enzymes were again suspect, though he still felt fine. This time, Zacur went to a radiologist for a biopsy, one guided by ultrasound. And this time, the sample yielded quite different results, showing severe, significant fibrosis.

“Fortunately, therapy for hepatitis C is now more potent,” says Hopkins hepatologist Zhiping Li. “The downside, however, is that side effects have worsened. People daily feel like they have the flu. Some develop anemia.”

Zacur’s apparently burgeoning hepatitis gave Li pause, and he realized that an accurate global survey of Zacur’s liver disease was in order. For the patient’s third biopsy—this time at Hopkins—direct visual inspection of the liver via peritoneoscopy would guide the needle.

Brought to Hopkins from Germany three years ago, mini-peritoneoscopy lets endoscopists visualize the peritoneum and its contents via a small, streamlined instrument fed into a single port. A second opening admits the biopsy needle. The technique is extremely nimble because both ports need be only a few millimeters wide and can be put anywhere in the abdomen that a patient’s condition allows.

After biopsy, two Band-Aids are enough to close.

“It’s a true advance over traditional laparoscopy, which involves 5- to 10-millimeter suture-requiring holes in the abdomen,” says Li.

The major benefit, though, lies in damping down liver-sampling error—a traditional hazard, Li says, because liver disease rarely spreads uniformly throughout the organ.

That certainly was the case with Zacur. Though his frontal left lobe showed spots of fibrosis, his right was clean. Thanks to the global view achieved through mini-peritoneoscopy, Li’s recommended a “watch and wait” approach, which Zacur was happy to follow. Marjorie Centofanti

Three advantages stand out, he says. “One is that you can retrieve a larger tissue sample.” That’s in contrast to ultrasound where housing the biopsy needle within the probe limits needle size. Also, Li adds, “we use sedation, and patients are happier with that.” Last, he says, post-biopsy bleeding isn’t a problem. “We catch bleeding right away because we can see it. That avoids painful hematomas that are almost universal otherwise.”

The new mini-peritoneoscopy service is unique in the United States, though the technique has spread throughout Europe. Li has seen some 50 patients so far, mostly with hepatitis.

Zhiping Li describes mini-peritoneoscopy as a “true advance” over traditional laparoscopy. In hepatitis patients, he’s been able to reduce liver sampling error, a traditional hazard since liver disease rarely spreads uniformly.
In the world of kidney transplantation, younger has always been deemed better—at least in terms of selecting recipients and donors. The logic was simple: Younger recipients would appear to have better odds of survival and success, and younger donors would offer organs that had seen less wear and tear.

But in the Department of Surgery here, researchers are finding that this assumption isn’t necessarily true. In fact, says transplant surgeon and researcher Dorry Segev, studies conducted during the last decade have shown that older patients could be just as eligible and hold just as much promise as their younger counterparts. Yet every year, tens of thousands of patients are turned away from—or not even referred to—transplant programs because of their age. Instead, they’re left with only one choice: years and years spent on dialysis, with no end in sight.

“That feels almost as bad as a death sentence for many of these adults,” Segev says. “But for the right patients, older ones included, transplantation offers a chance at survival and a much higher quality of life. Right now, the referral rate for kidney transplantation in older adults is almost one-tenth that of younger adults. But we recently showed that thousands of older adults every year go on dialysis, despite being excellent candidates predicted to do exceptionally well and derive tremendous benefits from a kidney transplant. Yet they never make it to us.”

The challenge today is twofold: First, the medical community needs to accept the possibility that kidney transplantation could be an option for patients 65 and older. Second, those patients—recipients and donors alike—need to be identified.

“The question is how do we decide whether someone is robust enough to get through the transplant operation so they can actually reap the benefits of it?” Segev says. One of the most promising criteria is a condition that in recent years has become increasingly prominent in the field of geriatrics: frailty, or physiologic reserve. In the past, frailty was limited to a vague assessment by an experienced clinician from the foot of the hospital bed; today it can actually be quantified with a simple set of tests.

By measuring walking speed, grip strength, fatigue, physical activity, and muscle loss, physicians can often determine whether an older patient is fit for any procedure—transplantation included. “We recently published that a patient’s level of frailty was a stronger predictor of outcomes than any other criteria that we are able to measure,” Segev says.

It’s not only older recipients who are sometimes overlooked. Older potential donors, too, have often been disregarded, even though they could have excellent outcomes and continue to live a high-quality life. In one study, Segev and his colleagues examined more than 200 living donors, ages 70 and up. They looked at two things: how well the recipients of their organs did and how well the donors themselves did. They then compared those donors to healthy people of the same age who had not donated a kidney.

“We found that the surgical risk for a properly screened older adult was no different than for a properly screened younger adult,” Segev says. “We also found that older donors lived just as long as their non-donor counterparts. That’s not to say that a 70-year-old is necessarily the best donor for a 20-year-old recipient, particularly if other options are available. Older donors, Segev explains, are ideal for older recipients who would generally require a shorter organ shelf life. Still, considering older donors increases a patient’s pool of potential living donors, particularly for older patients whose support networks are often populated by people their own age.

“Patients on dialysis may have to wait years and years before they get a donor offer from a waiting list,” Segev says. “If you can find a living donor, that’s a much better option, because you can spare yourself many years of waiting and possibly dying on dialysis.” Lauren Glenn
Eating Again

Covered stents may prevent need for bypass in fatty arteries that feed intestines.

Sixty-two-year-old Homer Pullen, of West Virginia, had already gone through a triple coronary artery bypass surgery when he developed fatty deposits in the arteries that feed his intestines, a condition known as mesenteric ischemia.

“I tried to eat but couldn’t because of the pain, and I went from 180 pounds to 132,” says Pullen. “It was heartbreaking.”

Although coronary atherosclerosis is in the news all the time, there’s little attention paid to mesenteric ischemia, says vascular and endovascular surgeon Christopher Abularrage. As a result, by the time patients like Pullen come for treatment, they are usually very weak and undernourished and are not good candidates for an open operation to bypass the blockages.

So Abularrage is taking a minimally invasive approach, using covered stents. Patients are awake but sedated, experience minimal pain, and can go home the next day.

“We start by inserting a catheter through the patient’s arm, down the chest into the abdominal aorta,” he says. “From there, we pass a wire through each blockage and then deploy a covered stent that is mounted on a balloon to open the vessels.” While the procedure can also be performed through the femoral artery in the groin, Abularrage explains, going through the arm may be an easier route due to the sharp angled take-off of the superior mesenteric and celiac arteries.

Abularrage believes that covered stents may be more effective than older, bare metal stents in keeping the arteries open because they have more radial force and can decrease the scarring that thickens blood vessels (known as intimal hyperplasia).

“Uncovered stents have been used as a bridge to bypass—treating patients’ symptoms so that they are pain-free and able to eat more and build their strength. However, covered stents may replace the need for a bypass,” says Abularrage. None of the patients he treated more than a year ago with covered stents has had a recurrence.

Such was the case with Homer Pullen. A month after Abularrage performed the covered stent procedure, starting through Pullen’s arm, the West Virginia man had gained back 20 pounds. “I now eat everything—even spaghetti with meat sauce and ham and eggs, and I feel great,” says Pullen. He’s also been able to go back to hunting, fishing, and other activities with his friends that he couldn’t enjoy before.

Abularrage says that most patients with chronic mesenteric ischemia are over age 60, often with a history of smoking and a high cholesterol level. It affects more men than women. Patients present with abdominal pain after eating and significant weight loss, but sometimes the symptoms can be mistaken for gallbladder disease or kidney stones, which is why it is often diagnosed after it has progressed.

Ellen Beth Levitt

Hearing Goeth Before a Fall

Loss of hearing could make it difficult to maintain balance and gait.

Hearing loss has been linked with a variety of medical, social, and cognitive ills—including dementia. Now, says Hopkins otologist Frank Lin, new research shows that hearing loss may also be a risk factor for another huge public health problem: falls.

To investigate possible connections between hearing loss and falling, Lin joined up with Luigi Ferrucci of the National Institute on Aging. Together, they used data from the 2001 to 2004 cycles of the National Health and Nutrition Examination Survey, a research program that has periodically gathered health data from thousands of Americans since 1971. During those years, thousands of adults ages 40 to 69 had their hearing tested and answered questions about whether they had fallen over the past year.

Their study found that people with a 25-decibel hearing loss, classified as mild, were nearly three times more
likely to have a history of falling. Every additional 10 decibels of hearing loss increased the chances of falling by 1.4-fold. This finding still held true, even when researchers accounted for other factors linked with falling, including age, sex, race, cardiovascular disease, and vestibular function. Lin says that he and Ferrucci aren't sure why hearing loss and falling are linked, but one possibility is that people who can't hear well might not have good awareness of their overall environment, making tripping and falling more likely. Another reason is that the brain might be overwhelmed with demands on its limited resources. “Gait and balance are things most people take for granted, but they are actually very cognitively demanding,” Lin says. “If hearing loss imposes a cognitive load, there may be fewer cognitive resources to help with maintaining balance and gait.”

Lin and his colleagues are currently investigating whether improving hearing in the elderly—through hearing aids and cochlear implants—might improve other problems associated with hearing loss, including falls. Finding ways to reduce falls might save millions in health care costs in the United States each year, as well as the health of thousands of people. “If we can prevent even a small fraction of falls by improving hearing,” Lin says, “that could make a huge impact on people’s lives.”

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Califano invited Hankin to Hopkins to present his idea to himself and Webster in person. After a couple of short lessons, both were speaking with the instrument—suggesting that it might be a viable option for patients, too. Within months, Webster and Hankin had started a small pilot study to teach jaw harp-generated speech to a dozen total laryngectomy patients. The method is straightforward: Users mouth words while strumming the jaw harp in their mouth. Although results were mixed—not every patient was a fast learner—the majority were able to pick up the technique quickly and with relative ease. The low-cost jaw harp holds decided advantages over existing technology, Webster says. With no special equipment or batteries necessary and a small learning curve, it could be a great option for patients in resource-poor settings.

Adds Hankin, “If you take care of your instrument and make an effort to learn it, the total charge for patients could be just a few dollars over the course of a lifetime.”

Hankin and Webster presented their work at the American Speech-Language and Hearing Association annual meeting in 2009 and at a Baltimore Adult Communications Disorders Interest Group in 2011. They’re also preparing a manuscript on their pilot trial for publication. Says Hankin, “This adds another real option to the limited set of tools that cancer patients can use to get their lives back.”

Christen Brownlee

Musician Wayne Hankin was listening to the radio one day in December 2007 when he heard a segment featuring Hopkins head and neck surgeon Joe Califano, who spoke about the post-surgery challenges facing patients with advanced laryngeal cancer. While a total laryngectomy offers a high cure rate, “the obvious downside is no more sound source for patients’ voices,” says speech language pathologist Kim Webster, whose Hopkins caseload is filled with patients dealing with this issue.

Most patients have one of two options for replacing their natural voice: either the hand-held, battery-operated electrolarynx, or a tracheoesophageal prosthesis (also known as a TEP). A third method, less commonly today, is esophageal speech, a technique in which patients learn to “burp” their words by swallowing air and forcing it out of the esophagus.

Though these methods do offer patients ways to talk, each has its drawbacks, Califano explains. Electrolarynxes and TEPs can cost thousands of dollars over patients’ lifetimes for care and upkeep, and esophageal speech can be extraordinarily difficult to learn. None of these options is a good fit for patients in developing countries, where resources such as equipment and batteries—and even education—are scarce.

Hankin, who plays the jaw harp professionally and uses it to generate twangy, buzzy-sounding speech for fun, wondered whether his instrument might offer an alternative for patients. So he called Califano.

Initially, the doctor was skeptical. “I thought it sounded like a nutty idea,” Califano says. “But when Wayne started talking on the phone with his jaw harp, I could see that it really works.”

From Twanging to Talking

The humble jaw harp gives voice to those without larynxes.
Every physician has horror stories about witnessing the inappropriate, excessive, or incompetent treatment of a patient—and about how a professional code of silence ensures that the public won’t learn about the failings of the offending practitioners or institutions. Marty Makary, a surgical oncologist and gastrointestinal surgeon at Hopkins Hospital, seems to have more of these tales to tell than most—or at least is more willing to do so. As accountability is becoming a new byword in American medicine—particularly with the nation’s new health care act establishing “accountable care organizations”—the timing could not be more propitious for Makary’s new book, Unaccountable: What Hospitals Won’t Tell You and How Transparency Can Revolutionize Health Care (Bloomsbury Press, 2012).

Although the drive for accountability in health care is accelerating, Makary contends that much remains to be fixed. Many information sources on patient safety are hidden in an impenetrable maze of websites, he notes. Medical institutions and practitioners continue to mislead prospective patients with deceptive advertising, acting as salespersons for—or defensively overusing—potentially unnecessary treatments. What’s more, hospitals fail to discipline errant physicians, and they don’t report fully on the outcomes of the care they provide.

“This is my passion,” says Makary, 41, who spent two years of nights and weekends writing Unaccountable. A colleague of Hopkins’ renowned patient safety advocate Peter Pronovost ’91, Makary has been in the vanguard of such initiatives. He was instrumental in developing the World Health Organization’s wide-ranging medical procedure safety checklist. He is also a leader of the movement that aims to improve the overall standard of care while making treatment options and institutional policies more transparent. As part of this effort, he wants to ensure that the public has easy access to every hospital’s outcomes data on various medical procedures.

Appearing frequently on both CNN and the Fox network as a medical expert, Makary knows the value of riveting stories to make a point. He fills his book with them. For example, during his training in another hospital, he saw a gastroenterologist, unfamiliar with endoscopic removal of a colon polyp, display admirable humility by calling upon a younger colleague to perform a quick and safe polypectomy by using a wire snare passed through the scope. Days later, a respected but clearly self-important colorectal surgeon spurned Makary’s suggestion that he seek the assistance of the wire-snare expert on an identical case. Instead, the surgeon insisted on performing an invasive operation to remove the patient’s colon. His reason? “I just like to take these out with surgery.”

Then there were the “styles” of two surgeons (again, not at Hopkins). One was warm and affable, the other brusque and demeaning. The affable physician charmed patients with his bedside manner, but his surgical technique was abysmal. His patients suffered a disproportionate number of painful, costly complications—a fact well known in the hospital. The residents called him “Dr. Hodad” (for “Hands Of Death And Destruction”). The other surgeon was known as “The Raptor.” He humiliated staff and patients alike. His surgical technique, however, was superb. The residents despised him personally—but he was the one they’d want to operate on them or a family member.

The staff and residents knew that to air their concerns could be professional suicide, so they remained mum about the individuals and incidents for which they coined devastating nicknames. Divided into three parts, “Some Random Doctor,” “The Wild West,” and “Transparency Time,” Makary’s 17 chapters are a fascinating blend of discomforting facts, common sense proposals, and an impressive call-to-action.

“To say that we provide amazing technology and have the world’s best research, therefore we are the safest, is something that doctors say is part of the problem in health care,” says Makary, who is also an associate professor of health policy at the Bloomberg School of Public Health. “We need to be open and honest about our mistakes, our shortcomings, where we can do better, our poor-performing areas in the hospital. And if we can’t be honest about our problems, then we really can’t improve on them.”

“It’s Time for Transparency
Surgeon Marty Makary makes the case for accountability to improve patient safety.
Victor McKusick and the History of Medical Genetics, Krishna R. Dronamraju, PhD, and Clair A. Francomano, MD, Editors (Springer, 2012)

Krishna Dronamraju (Fellow, medical genetics, 1965) and Clair Francomano ’80 (HS, faculty, medical genetics, 1980–94) have assembled an all-star lineup of medical luminaries and family members to pay tribute to Victor McKusick (1921-2008), the genetic medicine giant whose 65-year career at Hopkins—from 1946 School of Medicine graduate to ever-active, iconic figure until his death—was the longest consecutive tenure of any faculty member in the School of Medicine’s history.

Dronamraju, now president of the Foundation for Genetic Research in Houston, contributed two of the 17 essays recounting McKusick’s professional accomplishments and personal characteristics. Francomano, now director of adult genetics at the Harvey Institute of Human Genetics at GBMC—and part of the research team at Hopkins that in 1991 discovered the gene that causes Marfan syndrome—also contributed two essays. One of these was written in collaboration with the late David Rimoin, a 1967 Hopkins PhD fellow, and house staff member who became a pioneering medical geneticist at Los Angeles’ Cedars-Sinai Medical Center. He died last May.

The brief introduction to the collection was written by 1978 Nobel laureate Hamilton Smith ’56 (faculty, microbiology, 1967–1998). Other current or former faculty, house staff, or fellows who contributed appreciation or recollection pieces about their erstwhile mentor or colleague include Aravinda Chakravarti, Edison T. Liu, Donlin Long, Reed Pyeritz, and Sir David Weatherall.

The most charming contributions of personal recollections were written by McKusick’s wife of 59 years, rheumatologist Anne Bishop McKusick ’50 and his “DNA identical twin brother,” Vincent L. McKusick, former chief justice of the Maine Supreme Judicial Court.

The book also contains eight eulogies, some delivered at McKusick’s funeral, including one written by former School of Medicine dean Richard S. Ross. In addition, it features a 29-page bibliography of McKusick’s 172 scientific papers. In his 18-page essay, “Victor McKusick and the History of Medical Genetics,” Sir Peter S. Harper (fellow, medicine, 1973), former professor of medical genetics at the University of Wales College of Medicine, writes, “It is greatly to be hoped that in due course, a detailed and objective scientific biography [of McKusick] will be written.”

Whoever writes it will find this volume a valuable source.

Neil A. Grauer

The Psychotherapy of Hope: The Legacy of Persuasion and Healing


Frank (1909–2005), who had come to Hopkins in 1940 as a resident under Adolf Meyer, systematically analyzed the effectiveness of the multiple, fiercely competing theories of psychotherapy—numbered by one scholar at more than 500.

Employing carefully devised, innovative experiments on the efficacy of these conflicting psychotherapeutic methods, Frank and his Hopkins colleagues developed a liberating overview, or meta-model, for its practice. It held that certain common factors could be found in the application of all the methods, and that these common elements of treatment accounted for psychotherapy’s success.

Frank wrote that a key to any effort to address the mental distress of patients who feel they have lost control over their lives and emotions is to strive toward restoring the patients’ morale and renewing their hope that they can, indeed, understand the source of their distress and master it.

Rarely has a single book had such a profound impact on a medical specialty. Revised in 1973 and 1991, Persuasion and Healing remains in print, in many languages. Its three editions have been “cited more than 1,600 times in the literature, a prodigious accomplishment,” write Renato D. Alarcón, a Frank protégé, and Frank’s daughter, Julia B. Frank, who became a psychiatrist herself and collaborated with him on the third edition of his book.

Marking the 50th anniversary of Persuasion and Healing, Alarcón and Frank have assembled an impressive roster of 20 psychiatric scholars—including Hopkins’ Paul R. McHugh and Glenn J. Treisman—to bring a 21st-century perspective to Jerome Frank’s insights.

In 15 essays—six on the basic principles of psychotherapy and nine on current practices in the field—the contributors update Frank’s central themes, thoroughly critique the latest developments in psychotherapeutic methods, and offer proposals on how to improve its practice. NAG
defying death

Cells on a seemingly one-way road to dying have come back from the brink, raising tantalizing treatment possibilities for everything from heart attacks to cancer.

By Christen Brownlee
Illustration by Michael Glenwood

When faced with death at Marooner's Rock, Peter Pan bravely quips, “To die will be an awfully big adventure.” That's because fatality is the ultimate of finalities. None of us knows for sure what happens after death, but most of us can be relatively sure that once we're dying, there's no turning back.

But what if the road to death wasn't as one-way as we'd previously thought? A new Hopkins study suggests that it may be possible to do a 180 from dying—at least, for cells. When scientists exposed batches of cells to deadly poisons, leaving them looking like they'd headed to that vast petri dish in the sky, the majority were still able to bounce back completely after those toxins were removed.

Not only is this finding a testament to the indomitable cellular spirit, but it could also hold plenty of practical value. Better understanding this death-defying process may offer some practical insight on how to save dying tissues after heart attacks or strokes, as well as prevent cancer in cells transiently exposed to toxins.
Findings Too Wild to Believe

As in the Peter Pan novel, this new insight into death—or the lack thereof—got its start with a set of siblings. When Ho Lam “Hogan” Tang began his first year as a doctoral student at the Chinese University of Hong Kong, his younger sister Ho Man “Holly” Tang took a break from her undergraduate biology program at the Iowa State University and joined him in his research as a junior visiting scholar. Hogan’s main project was studying aspects of apoptosis, the process of programmed cell death, which scientists have known about for decades.

Apoptosis can be both positive and negative. For example, cell death is absolutely necessary to sculpt fingers from paddle-shaped hands during development and to kill off rogue cells that could be the start of cancerous tumors. However, it also kills cells in excess after traumatic events, such as a heart attack or stroke, or in degenerative diseases, such as Alzheimer’s disease.

While trying to figure out how the cell’s cytoskeleton, a network of fibers that helps it retain its shape, renews during apoptosis, Hogan and Holly Tang became curious about whether the cells they had exposed to toxins to kick-start apoptosis were really on an irreversible track to death. Scientists had long considered a set of physical and molecular markers—changes in a cell’s appearance, or the appearance of the activated form of an enzyme known as caspase-3—as unmistakable signs that a cell was definitively going gently into that good night.

But when the Tang siblings saw the same things in their batches of cells, they weren’t so sure.

“We were curious,” Hogan remembers. “We always do experiments together, and sometimes we have some weird ideas. We thought, if it doesn’t cost a lot of time and money, we’d test whether these were really dead cells.”

In some preliminary experiments, the duo waited until the cells appeared to be pushing up daisies by the hallmarks other researchers had established, then replaced the toxic brew the cells were sitting in with normal media, a nutritious broth that researchers ordinarily use to grow cells. Within hours, they noticed that most of the cells appeared to turn back, regaining their original appearance and behaving as if they’d never faced mortality.

Hogan Tang recalls that at their next progress seminar—a forum in which a lab member can share his or her findings and get feedback from colleagues—no one believed their results. A few months later, when he received a Fulbright scholarship and started contacting labs in the United States where he might go to continue his studies, he ran into the same problem. “They all rejected it,” he says. “They just weren’t interested, or they thought it was too wild an idea.”

But his luck changed when he contacted Denise Montell, a professor in Hopkins’ Department of Biological Chemistry. Montell was open-minded enough, Hogan recalls, to challenge what many researchers believed were central dogmas in apoptosis.

“There’s clearly some point when something is truly dead and can’t come back,” Montell says, “but there’s been a controversy about what constitutes the point of no return for cells.”

Hogan Tang headed for Montell’s lab in 2009 to continue his PhD, soon joined by Holly, who took a job as a lab coordinator for Montell. Together, the team, along with additional colleagues at Hopkins, replicated the experiments performed in Hong Kong. The researchers exposed healthy cells isolated from mice or rats and growing in petri dishes to ethanol, a potent toxin. Within hours, the cells displayed the typical hallmarks of apoptosis, including cell body and organelles, cell membrane blebbing (developing irregular bulges), and an altered appearance of cellular organelles. However, when the scientists washed the ethanol away, they watched in amazement as many of the cells plumped back up, smoothed their membranes, and regained normal organelles.

To rule out the possibility that only rare “escaper” cells were somehow managing to dodge death, the researchers counted how many made it. Their findings showed that about 90 percent of the cells managed to survive.

“You can watch an individual cell shrivel up, look like it has no chance, and then come back to life,” Montell says. The team published their findings online in April in the scientific journal Molecular Biology of the Cell.

Repeat experiments showed that the findings held true for a variety of cell types, Montell adds, including mouse brain and rat heart cells. This suggests that the ability to defy death could be universal for all or at least many kinds of cells in the body, she says. Additionally, the team discovered that reversing apoptosis wasn’t just something physical to observe in the microscope. Gene expression data showed that several molecular indicators that researchers had considered signs of imminent death, such as activated caspase-3, also reversed when the cells sprang back to life.

Though part of the apoptosis program includes cells chomping up their own DNA—part of a complicated self-destruction sequence—further tests showed that they could snap back even from this genetic damage, stitching the severed pieces back together. However, more experiments showed that sometimes cells made mistakes, missing pieces of DNA or connecting the wrong pieces.

Since these kinds of errors can lead to cancer, the scientists tested whether surviving cells exposed to toxins had malignant characteristics. Sure enough, they found that a small percentage of the cells grew abnormally, developing some hallmarks of cancerous growth.

Monsters or Prophets?

Rather than cast a dark pall over this rejuvenation, that last finding could have implications for explaining and treating cancer, as well as a variety of other diseases, Montell says. For example, though researchers know that alcoholics have a propensity toward developing liver cancer, the reasons have been unclear. Based on this discovery, it’s possible that problem drinkers might continually be bringing their liver cells toward the brink of death and that some surviving cells continue on with genetic defects that lead to malignancy.
The results might also explain why cancer cells often develop resistance to chemotherapy. During chemotherapy, cells are transiently exposed to toxic drugs that induce apoptosis, and then the patient is allowed to recover. So while most of the cancer cells die, those that survive may develop genetic defects some of which could contribute to their ability to resist death on the next round.

In effect, the finding could offer new hope for a variety of conditions that center around cell life or death, says Allan Spradling, director at the Carnegie Institution for Science in Baltimore. “Do resurrected cells become monsters that continue to lurk in an organ’s dark corners, or prophets that can rally neighboring cells to carry out novel and beneficial actions? Either way,” he says, “the new knowledge generated by these investigators may soon improve our ability to manage some of the diverse medical conditions that are expected to generate [these] cells.”

Montell, the Tang siblings, and their colleagues plan to continue to investigate the mechanisms behind this ability to bounce back, which they’ve named anastasis, based on research from two acquaintances, Ralph A. Bohlmann and James W. Voelz, who happen to be Greek scholars. While “apoptosis” comes from Greek roots meaning “falling to death,” “anastasis” means the opposite, “rising to life.” Knowing more about this process could eventually lead to ways to enhance it, Montell says, which could be a boon for conditions in which apoptosis occurs to excess. On the other hand, identifying ways to reduce or prevent anastasis could be useful for averting the development of resistance to chemotherapy or other conditions where cell survival is harmful.

By helping cells live or die, she adds, researchers might eventually help people get back to their own healthy lives—an awfully big adventure in itself.*

“Do resurrected cells become monsters that continue to lurk in an organ’s dark corners, or prophets that can rally neighboring cells to carry out novel and beneficial actions? Either way, [this] new knowledge may soon improve our ability to manage some of the diverse medical conditions that are expected to generate [these] cells.”

—Allan Spradling, director at the Carnegie Institution for Science
Comfort zones

Palliative care advocates are taking hospice strategies and pushing them “upstream”—to aid patients throughout the course of a serious illness.

By Jim Duffy
Photos by Monica Lopossay
Louise Moyer and her husband, John, were able to make the most of his final months, thanks to a palliative care team at Hopkins.
A facilities engineer at the Patuxent Naval Air Station in Southern Maryland, John was faring tolerably well when things took a turn for the worse in mid-2011. His weight ballooned, and he was soon carrying more than 300 pounds on his stocky, 5-foot, 8-inch frame. Of even more concern was the pain shooting down John’s legs; over time, it became so excruciating that it left him all but incapacitated.

The guy Louise had fallen in love with was a larger-than-life figure. “If you walked into a crowded room where you didn’t know anybody, John’s the guy you’d notice right away,” she says. “He was just filled with the joy of living. He had a huge appetite for everything human—food, fun, sex, friends.”

The John before her now was a shadow of that man. At just 48, he had none of the joy that so defined his healthy life. Every ounce of his strength was spent grappling with that pain in his legs; he had nothing left in reserve.

No one was able to help. Specialist after specialist in multiple hospitals ran test after test. Time and again, they failed to find a cause for John’s woes. “It looks like your husband is fine—we can’t find anything wrong,” said the doctors.

When Louise Moyer recalls such moments, her voice shakes in tears one moment, then rises in anger the next. She was certain the experts were wrong, but everything she tried or suggested added up to nothing more than grasping at straws.

Louise has a sister in Michigan who’s a nurse, and she mentioned the possibility of palliative care—a fast-growing specialty that is focused on providing value-added treatments and services that aim to help patients feel healthier and live fuller lives even while they battle serious disease.

After her husband became an inpatient at Johns Hopkins Hospital, Louise asked about palliative care but was told at first that the service was unavailable (and indeed, at that point, the service was only available in targeted wards). A short while after that Louise found herself meeting with Rhonda Cooper, the chaplain at the Sidney Kimmel Comprehensive Cancer Center.

“I told her everything, the whole incredible story of all the things we’d been through and why I just didn’t trust anybody anymore,” Louise says. “Rhonda just sat there with me, listening, and the whole time the tears were just pouring out of me.”

Cooper remembers the encounter clearly. “Some people think chaplains only get called in when someone is about to die, but that’s a misconception,” she says. “Most of my work is with people who are in distress. Not just patients but also spouses and other family members, and staff as well. What I try to do at first is just listen very deeply to what they’re willing to share.”

Cooper was surprised to hear Louise complain that Hopkins didn’t offer palliative care. “I said, ‘Oh yes, we do have palliative care here,’” she recalls. In fact, Cooper herself is a part of the interdisciplinary team providing care at Kimmel as the Harry J. Duffey Family Pain and Palliative Care Program.

Cooper reached out to her colleagues on the Duffey team, and the next day a physician and nurse arrived to consult on John Moyer’s case. “We found a person in terrible pain—John was just miserable,” says the nurse, Lynn Billing.

Moyer’s other physicians had been uncomfortable about increasing his doses of pain medicine past a certain point, but the palliative team recommended that they try doing just that. They converted the pain medications he had been receiving to an intravenous hydromorphone, Dilaudid, and they escalated the dosage until Moyer’s comfort level increased.

Within a few days Moyer was planning a bass-fishing trip with friends—in Florida. “I cannot even begin to say what a difference they made in my life—and in my husband’s life,” Louise Moyer says. “I finally had my husband back again.”

### While Palliative Care Can Trace Its Roots

Louise Bianco Moyer was in a desperate state. Her husband, John Moyer, was fighting a long, brave battle with two primary cancers—the first, in his kidney, appeared in 2006, while the second, in his rectum, showed up in 2010.

While palliative care can trace its roots back centuries to the work of religious orders in Europe, the modern incarnation of the field dates only to the late 1980s. That’s when Cleveland Clinic and the Medical College of Wisconsin began dipping toes in patient-care waters, inspired by the hospice movement but no longer limited to patients who are knocking on death’s door.

The field has been growing rapidly ever since. Lynn Billing is the nursing coordinator on the Duffey team at Hopkins. When she first attended the annual conference of the American Academy of Hospice and Palliative Medicine, there were about 500 colleagues in attendance—that was in 2005. This year’s conference drew seven times as many.

The national Center to Advance Palliative Care has tracked the spread of the specialty into hospital settings. By 2000, roughly one in four U.S. hospitals had started some sort of palliative care initiative; 10 years later, that had climbed to nearly two out of every three hospitals—some 1,600 institutions.

But the field still has a way to go. One sign of just how far is the way some medical professionals still seem a little unclear about what, exactly, palliative care is. The Duffey program has been up and running for five years now, but on occasion the team still encounters misconceptions.

“The most common is that we’re only about end of life, or that palliative care and hospice are one and the same,” Billing says. “We hear from colleagues—‘No, this patient isn’t ready for you.’ Our response is, ‘We want to be helpful,’ and we start by meeting the patient and family where they are.”

The dictionary describes a treatment as palliative when it’s aimed at symptoms rather than a disease. So in one case a
palliative team might work alongside an oncologist to reduce pain and ease nausea through a chemotherapy regimen. In another, the team might treat a patient’s depression or help him navigate the spiritual crisis that arises so often in serious illnesses. Then there are cases where the team is focused on making sure patients are able to manage the home environment and thrive as outpatients.

The palliative toolbox, then, includes the skills of physicians, nurses, pharmacists, psychiatrists, chaplains, social workers, and more. This array is quite similar to the toolbox used in hospice—the key difference is that palliative care advocates have their sights set on helping patients not just when death is imminent but throughout the course of a life-threatening illness. They’re taking hospice concepts and pushing them “upstream.”

A 2010 study at Massachusetts General is often cited to demonstrate the potential of the field. There, researchers randomized 151 patients with metastatic non-small cell lung cancer into two groups at the time of diagnosis—one group got standard oncology care, while the other received palliative care in addition. The palliative patients experienced the boost in quality-of-life measures that such care is designed to deliver—less depression, less pain, fewer complications. They also lived on average almost three months longer than those in the control group. The results helped convince the American Society of Clinical Oncology to issue a formal recommendation last year that diagnosis is the right time to start delivering palliative care to such patients.

**AT HOPKINS**, the first palliative care initiative sprang up as a small consult service in the Department of Medicine in the late 1990s. Then came the Harriet Lane Compassionate Care program at the Children’s Center, which started as a staff educational initiative. Later, the Duffey program at the cancer center grew out of an existing pain service; it, too, is structured as a consult service giving recommendations to care teams.

These efforts tended to be small and underfunded, says Terry Langbaum, chief administrative officer at the Kimmel Center and a longtime champion of expanding palliative care at Hopkins. “Over time we became an outlier among academic medical centers,” she says. “In a field that was young but growing and obviously catching on everywhere, we were falling behind. That’s not supposed to happen here—we’re Hopkins.”

That began to change late last year when Thomas Smith was named the first-ever director of palliative care for Johns Hopkins Medicine. He arrived in East Baltimore from the Virginia Commonwealth University School of Medicine (formerly the Medical College of Virginia), where he had established himself as one of the nation’s foremost experts in the field. His appointment marks the first full embrace of the young specialty at the institutional level.

On a recent Thursday afternoon, Smith joined with 15 of his colleagues as they squeezed into a small conference room just off the lobby of the Kimmel Center for a meeting of the weekly Multidisciplinary Cancer Pain Conference.

The case that dominated the meeting involved a woman with metastatic melanoma who’d endured multiple recent hospital admissions. The animated discussion was focused on how to ease the woman’s pain to the point where she could stay at home for an extended stretch with her husband and grade-school-age child, without bouncing back into the hospital.

A key strategy under consideration is one that’s been highly successful in such cases—delivering pain medications directly into the spinal fluid. The team also discussed a number of symptoms beyond pain, including depression, shortness of breath, and fatigue, among others.

As the discussion wound down, Smith raised a hand in the air and moved the subject to the woman’s long-term prospects. Asking about prognosis, he learned that the patient is likely to die in the window of six months to one year.

“Has anyone been in yet to say, ‘What do you want to know about what’s going on with your illness and where things are headed?’” he asks. “If she wants to know more, this is the time to be honest. It’s going to go a lot better if we do that now so that she and her family can get to thinking about it sooner, not when she’s at death’s door. Can we help her get started with a life review? Maybe she’ll want to write things down for her child.”

Trained as an oncologist, Smith knows from experience that in treating patients suffering from a deadly disease, there can be lots of seemingly sound reasons to steer clear of frank discussions about a bleak prognosis. Is this patient at risk for depression? Does that one seem likely to give up the fight altogether? Is a third dependent on the support of family members who might not be able to handle the news?

“It turns out that it’s a bit of a myth that oncologists like me actually sit down with patients at some point and have these ‘big’ conversations,” he says in an interview. “Some of us do, but a lot of us don’t.”

That’s not just an anecdotal impression. Smith cites one study in which researchers looking back over patient charts found that such “big talks” happen in just one of five cases where the patient is likely to die. Smith cites another study at one academic medical center, where in just two of 85 such cases did oncologists raise with patients the topic of preparing advance health care directives to guide care.

In that sense, there’s a bully-pulpit aspect to the job at hand for Smith and his colleagues. Hopkins is built upon the curative
power of medicine. While the growth of palliative care doesn’t change that goal, it does ask physicians who are often strapped for time and resources to deliver Hopkins-level excellence along a parallel, palliative path.

“It’s a major leap in this institution,” says Langbaum. “Our docs can always pull some rabbit out of a hat. You know, if this treatment fails we have that treatment and if that fails there’s a third and after that there’s a clinical trial. They’re scientists, and their focus is on curing the disease.”

Smith points to a series of research results showing that the fears clinicians have about “big” talks are misplaced. The vast majority of patients with deadly diseases tell researchers that they’d prefer it if caregivers spoke early on and frankly with them about their prognosis.

Smith himself helped conduct a study that found that in the absence of such discussions many patients came to believe their prognosis was worse than it actually was.

“We also measured their sense of hope—it’s the first time anybody studied that around a prognosis,” Smith says. “And the level of hope those patients felt about their future didn’t diminish after they had all the facts—it either stayed the same or went up a little bit. And depression is far less likely when we have these discussions, for both patients and caregivers.”

“When this doesn’t happen,” Smith says, “that’s how we end up in these worst-case scenarios where we have patients we know are going to die, but we end up giving them no chance to prepare before they end up in intensive care, hooked up to blood pressure support and suffering from things like delirium and other complications.”

Such deaths are more costly than they should be on just about every front. Patients miss out on opportunities to savor priceless moments, whether that’s making amends with an estranged sibling, confiding in a minister, or dying at home with loved ones close at hand.

Those loved ones miss out on such moments as well. And, Smith notes, they find themselves in the aftermath of their loss at higher risk for depression and post-traumatic stress compared with families whose loved ones receive palliative and hospice care. Hospice families are also less likely to go bankrupt, Smith says, and surviving spouses are less likely to die in the aftermath of their loss.

The health care system loses out as well. Deaths are much more expensive in intensive care than they are in hospice. Here, Smith cites a test project by the insurance company Aetna to deliver palliative care alongside standard treatment in terminal cancer cases: The costs of care in the last 40 days of life dropped by 22 percent, primarily due to reduced hospitalizations.

“No one got into this field with the first thought in their mind being that it might be a great way to save money,” Smith says. “But the fact that palliative care allows people to live longer and live better while also saving money—that’s obviously a good thing considering what’s going on with costs in the U.S. health care system.”

Concrete plans are now in place for the expansion of palliative care at Hopkins. An inpatient palliative unit is slated to open next year on Marburg 3, Smith reports, that will serve patients in need of symptom “tune-ups” as they’re discharged.
“The first thing we did was to conduct a needs assessment, and the thing we learned is that our clinicians were suffering a lot around these issues of end-of-life care. There was grief and moral distress.”

—Cynda Rushton, Program Director

from the emergency room or intensive care. At the Children’s Center, palliative care experts are in the midst of business planning and developing a campaign to seek philanthropic support for the expansion of such care there.

**AS MEDICAL DIRECTOR** of the Harriet Lane Compassionate Care program at the Children’s Center, Nancy Hutton is often called in to consult on cases where children have a bleak prognosis. Whether they are likely to die in a few months or over a longer time frame, the care she delivers often tends to be as much focused on the arts of communication and compassion as it is on clinical recommendations.

In a recent case, Hutton watched as a young mother hoping for good news received instead the worst possible report from her child’s doctors. In the weeks that followed Hutton and other palliative caregivers made a series of home visits that helped build a foundation of knowledge about the family’s circumstances and trust with the child’s mother.

“Part of what I did with the child’s mother privately at the bedside is say things like, ‘There’s going to come a time when someone’s going to ask you really hard questions, and you need to think about what your answers are going to be,’” Hutton says. “There’s going to come a time when the stomach isn’t working anymore. There’s going to come a time when seizures are out of control. I told her, ‘We’re not there today, but there’s going to be a day when you’re asked whether your child should stay on the breathing machine.’”

The Compassionate Care program developed along a path that’s unusual in the field. Most palliative services start out on a consult model like the Duffey program at the Cancer Center. The Lane program dates its history to 1997, but direct consultations on cases began only three years ago.

“The first thing we did was to conduct a needs assessment, and the thing we learned is that our clinicians were suffering a lot around these issues of end-of-life care,” says Program Director Cynda Rushton. “There was grief and moral distress.”

Often, Rushton adds, such distress revolves around heart-wrenching questions that arise in cases where children are not going to survive their illnesses. What should the primary goal of treatment be? Are we striking the right balance between trying to extend life for days or weeks and trying to boost quality of life so that families can make the most of their remaining time with the patient? Occasional disagreements among caregivers around such questions are inevitable—and the high stakes involved can generate emotional tensions.

So, at first palliative care efforts at the Children’s Center focused on staff more than patients. The center’s volunteer-driven Compassionate Care Leadership Council initiated a new series of palliative care rounds on units where staff dealt most often with deaths. The council made it easier to convene conferences that put the entire range of caregivers at the table to discuss goals of care and debate treatment options. And they developed a new system of debriefing sessions for staff with the center’s bereavement counselor in the wake of patient deaths.

“Over time there was a genuine change in the air,” Hutton says. “Before, it was like the ‘wounded healer.’ There were professionals here experiencing loss and doubt without ever acknowledging it to themselves or anyone else. After, there were more open conversations about the fact that children here can have a bad prognosis. It became safer to talk and debate about the best things to do when that’s the case.”

That groundwork helped the field build up credibility, so much so that it was the Children’s Center staff who came to the Leadership Council and requested that it create a consult service. That service began operating in 2009, but is not yet funded in ways that would provide 24-hour access, as well as outreach to patients during clinic visits and at home.

“There isn’t so much of that misconception anymore that this is about hanging crepe,” Hutton says. “People see that it’s about doing our best to help families enjoy a child for every moment that they have together.”

**JOHN MOYER SPENT MOST OF APRIL** and May of this year back home, his pain lessened and his outlook improved. Looking back, his wife cherishes every moment of those calmer weeks after all of the time spent bouncing in and out of hospitals.

The Moyers came into Hopkins on June 4 to discuss a planned surgery to ease some digestive blockage John was experiencing. Instead, the couple found themselves meeting with nurse Lynn Billing in a private room. There, Billing reviewed the latest report from John’s physicians, explaining that his cancer had exploded and was now out of control.

“She said he had about three weeks left, and he died three weeks and three days later,” Louise Moyer says.

Later that day, Billing spent two and a half more hours with the Moyers, first with both husband and wife and then with Louise alone. “She had such a marvelous way of presenting what we needed to do on the next step,” Louise recalls. “It wasn’t like we were giving up—we were shifting our focus and we were going to spend our energy to die well.”

John died on June 28, assisted by a hospice program in Southern Maryland. In the wake of her experience, Louise has become a strong advocate for palliative care.

“We live in a society where no one wants to talk about death, and when you think about it that’s the one thing we all have in common,” she says. “The people in palliative care aren’t afraid to talk about it. Lynn and Dr. Smith just made such a difference in his life, and in our lives.”

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Paul McHugh and colleagues are on a crusade to radically rethink the manual that has come to define psychiatry.

By Mat Edelson
Illustration by Nigel Buchanan
It is a book both revered and mocked by those within the profession—a 943-page diagnostic tome that was never intended to be a bible, yet nonetheless has been elevated to Final Word status by the majority of the nation’s practicing psychiatrists. It is not apocalyptic to state that the future status of the profession, its perceived capacity to help versus harm, may well rest on the book’s next chapter…

So perhaps it’s only appropriate that, with the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (a.k.a. DSM) on the verge of descending from the mountain top, a former DSM acolyte-turned-heretic is leading his disciples away from the dogma, and toward what he envisions as a promised land where mental illness and its sufferers will be seen and treated in a healing new light.

To understand Paul McHugh’s love/hate relationship with the DSM is to understand the history of the book itself. Actually, it was more of a short synopsis in its first two incarnations, circa 1952 and 1968—nascent attempts to categorize and nomenclate the expressions of mental distress. But by the early-70s, it was becoming clear that psychiatrists, depending upon their particular schooling and inclinations, couldn’t agree on diagnoses; their infighting was reminiscent of the Islamic parable of the Six Blind Men and the Elephant, who, depending upon what part of the creature they touched, concluded that the animal definitely was either a wall, spear, snake, rope, fan, or a tree.

There was nothing amusing about the diagnostic inconsistencies then facing psychiatry. A landmark study in 1971 showed that, when evaluating patients with identical symptoms, American psychiatrists generally concluded the patients had schizophrenia, while British psychiatrists leaned toward a diagnosis of major depression. Two years later, a study in Science went a step farther; researcher David Rosenhan sent volunteer “pseudo-patients” claiming auditory hallucinations into a dozen psychiatric hospitals across the U.S., where they were all admitted, some for weeks, with a schizophrenia diagnosis. The hospital’s diagnostic criteria never lined up to a single biological cause. Furthermore, the intentionally atheoretical underpinnings of DSM III meant that “by rule, the APA’s editors wanted to stay away from thinking about causes,” says Hopkins psychiatrist Kostas Lyketsos.

Meanwhile, the simplified “checklist” system of DSM III—which, critics say, tried to quickly nail down a symptom/diagnosis match using leading questions, without deeply investigating the patient’s bio/psycho/social history—was radically transforming psychiatry. As an example, McHugh mentions grief. In the wake of DSM III, it became classified as major depression, “so instead of [doctors] talking with the person about the meaning of their loss, they just started popping pills into them. They lost touch with the humanity of this most basic human emotion.”

Still, the checklist concept was proving irresistible: Within Psychiatry, “We had to come up with a classification system, to get the psychiatrists to all agree on what disorders looked like so they could at least call them the same thing.”

Enter DSM III. Released in 1980 by the American Psychiatric Association (APA), it was staggering in scope: The work of hundreds of psychiatrists yielded symptoms for 265 diagnoses—for illness ranging from borderline personality disorder to catatonic type schizophrenia. Yet hardly any of the diagnoses had established scientific “validity,” i.e., a verifiable base set of causes, notes McHugh. This initially greatly concerned him.

“I told [DSM-III editor] Bob Spitzer, ‘Gee, Bob, I don’t know; you’re starting off by naming stuff whose nature you don’t know,’” recalls McHugh. “And he said, ‘Nope, Paul, this is the way to do it.’ And for the first 10 years after, I thought, ‘he’s right!’”

McHugh, who was always fascinated by methods—he calls them “perspectives”—for helping to determine causation for mental illness, hopped on the DSM III train because of its implied promise: If psychiatrists, regardless of training and practicing philosophy, could agree on which symptoms led to the same diagnosis, then researchers would have a standardized field of patients to study, and begin to uncover the base causes of different mental illnesses. This was vital, for while different methods of psychological therapy had long been studied, the root causes of what made people mentally ill in the first place, and how best to choose between medications, therapy, and perhaps social services for treatment options, had received far less attention.

DSM III was supposed to fill this research Q and A void, but that’s not what happened in the wake of its launch; psychiatric research still lagged as few diagnoses proved easy to pin to a single biological cause. Furthermore, the intentionally atheoretical underpinnings of DSM III meant that “by rule, the APA’s editors wanted to stay away from thinking about causes,” says Hopkins psychiatrist Kostas Lyketsos.

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Still, the checklist concept was proving irresistible: Within
a decade the APA found itself with a multimillion dollar bestseller on its hands, as both psychiatrists and physicians outside the field became fascinated by this elaborate diagnostic menu.

“DSM III was meant as a tentative guide to diagnosis. Instead, it was treated like a bible,” says McHugh contemporary Allen Frances, who was editor of the 1994 DSM IV before becoming one of the fiercest public critics of the direction the latest DSM edition is taking. “People never took seriously DSM I and II. But the [symptom] sets of DSM III became the subject of cocktail party conversation, they became the subject of research, they became the way insurance companies paid for treatment. It decided who was sick and who wasn’t. It became the vehicle for determining disability benefits and who would get school services. And it was very important in the courtroom. But each time the DSM was used beyond its capacity, the use distorted itself and the place it was being used. It was meant to help psychiatry retain its credibility, but no one realized there’d be this vast over-shoot.”

By the time DSM-IV rolled around in 1994, Paul McHugh believed that his field was in trouble. The DSM had led everyone to believe they could practice psychiatry: Consider that, with the help of big pharma’s “if you have these symptoms, ask your doctor” ads, nearly 80 percent of all psychiatric meds were being prescribed by internists and family practitioners—some in the course of a seven-minute HMO visit. Hardly time to deeply evaluate a diagnosis, let alone get to the cause of the problem.

And it was that explosion of new diagnoses that most concerned McHugh. DSM IV contained nearly 300 diagnoses—three times more than DSM I. “In the early ’90s, things dawned on me. These diagnostic categories that the experts said existed were expanding way out of size. [Patients] only express [themselves] emotionally in so many ways; ultimately doctors began to put lots of people in the anxiety category and the major depressive category, and they were all getting the same kind of treatments,” says McHugh. He also believed the DSM was allowing faddish diagnoses to get in without scientific rigor.

“DSM [inclusion] gave cover to certain kinds of major assumptions, such as the ‘recovered memory’ and ‘multiple personality’ syndromes. As soon as you said in the DSM that multiple personality exists, then people could build up treatment programs based on the fact that you repressed memories of sexual abuse as an infant. And they went wild on that,” says McHugh, whose 2008 book Try To Remember recounted his and other psychiatrists’ mostly successful efforts to discredit the existence of both conditions.

The price of devotion was becoming too high for McHugh; the harm to families victimized by accusations of false memories of abuse, the infliction of stigmatizing diagnostic labels on seemingly “normal” people, the medicalization of kids to the point where 2-year-olds were being diagnosed and medicated for depression … this was a cat-echism McHugh could no longer embrace.

Especially because he had already found a better way.

In the May 17 issue of the New England Journal of Medicine, McHugh and Hopkins colleague Philip Slavney laid their concerns over the coming DSM revision on the line in an essay titled “Mental Illness—Comprehensive Evaluation or Checklist?” Lead author McHugh didn’t mince words: “Identifying a disorder by its symptoms does not translate into understanding it. Clinicians need some heuristic concept of its nature, grasped in terms of cause or mechanism, to render it intelligible and to justify their actions in practice and research.”

Leading members of the APA, well aware of the criticism of the DSM levied by McHugh and others, argue the latest version will be able, thanks to electronic publishing, to respond to and potentially correct areas of diagnostic concern within the tome. “I don’t like the term ‘bible,’ says David Kupfer, who is lead editor for the current revisions. “A bible is written once, and we can write commentary on it, but we can’t change it. I think it’s important to convey the fact that this DSM is going to be a living document. We’re calling it DSM 5.0; we see a 5.1, 5.2, and a 5.3, not rewriting the whole thing, but where there is new information, and good thresholds met to change criteria, we want to be able to do that and not have it wait in the queue for 20 years.”

McHugh, who maintains a cordial relationship with Kupfer, respectfully disagrees on waiting to implement change. His solution—or at least a suggestion of where DSM 5 should head immediately—is a direction that ironically harkens back to psychiatry’s roots at Hopkins of nearly a century ago. That’s when Adolph Meyer established the first comprehensive methods for evaluating a patient’s life—the origins of the bio-psycho-social model.

That was supposed to be DSM’s 21st-century model as well. But even the APA’s then president Steve Sharfstein admitted in 2005 that his field had turned into “a bio-bio-bio model” dominated by “a pill and an appointment.”

For McHugh, such an approach is anathema to the way he’s taught the psychiatric arts to thousands of Hopkins medical students over the past 40 years. While it’s impossible for students to ignore the DSM—at the very least, it guides insurance reimbursements that sustain medical practices—McHugh says the DSM is best seen by students as a general field guide to psychiatry, much in the same way amateur bird watchers might look at an Audubon guide to separate robins from starlings.

But to really figure out what makes starlings or people tick—or at least get them flying toward their own personal True North again—McHugh and Slavney’s teachings have balanced the DSM’s black-and-white influence with their version of modern day Meyerism, which they’ve written about in The Perspectives of Psychiatry. First published in 1986 (a second edition came out in 1998), the book urges psychiatrists to invoke four perspectives with each patient to get to the heart of their condition. The book is considered the foundation of Hopkins clinical training, and its influence
has reverberated across the field.

“It is a book for the ages,” says Margaret Chisolm, who directs psychiatric education at Bayview and was schooled in McHugh’s methodology. “They call it the recipe for applying the bio-psycho-social model.” Duke’s Allen Frances has an equally humanistic view of McHugh’s perspectives: “Hippocrates [says] it’s far more important to understand the person who has the disease than the disease the person has. Paul’s [perspectives] are following in those footsteps,” says Frances.

If it were up to McHugh, the perspectives would become a new organizational structure for both the DSM and the field at large. They include categorizing diagnoses by:

- Brain Diseases, such as schizophrenia
- Personality Dimensions, such as obsessive-compulsive disorder
- Motivated Behaviors, such as alcohol addiction and anorexia
- Life Encounters, including grief and post-traumatic stress disorder

To the layperson, such perspectives appear at first glance to be both subtle and contradictory. Neuro-psychiatrists might suggest that all mental illness is caused by brain disease. Similarly, in a sort of chicken-and-egg conundrum, does someone with anorexia not eat because they are obsessive-compulsive, or does the desire to not eat become obsessive over time?

To McHugh, this is where the monochromatic current viewpoint of the DSM has to yield to the investigation, reflection, and consideration of numerous causal factors that can be brought forth by applying the perspectives to each psychiatric patient. Instead of a rush to diagnosis, the emphasis becomes about understanding, insight, and appropriate treatment.

Each perspective is brought to bear, like applying rotating gel lights of different colors to the same stage. Subtle? Yes. Field changing? Perhaps. It’s worth noting that, in a journal noted for vigorous debate, there was no rebuttal from the APA or others to the McHugh/Slavney call-to-arms. If anything, some of the country’s top psychiatrists are embracing his message.

“I think Paul’s perspectives nails it,” says University of Iowa psychiatrist Arnold Andersen, an eating disorders authority who spent 15 years at Hopkins working with McHugh. “They address the issue by recognizing that different modes of reasoning are needed to appreciate the real-life, categorical differences between different types of psychological distress.

“Take alcohol abuse,” continues Andersen. “It’s a behavior with different sources. There isn’t any one treatment until you trace back the origin. The little old lady who has sherry before her Canasta game to calm a benign hand tremor is very different from the 13-year-old who just loves alcohol and has no side effects [that’s almost always genetic] and from the person who uses alcohol to cope with a high-stress situation. To categorize those three on a single checklist implies the job is done.

“By contrast, Paul’s approach is the soundest I know. The perspectives have a methodological approach; when he finishes with a global assessment [of a patient], you have a comprehensive guideline on how to begin with treatment. If
DSM 5 would put their different disorders into his categories, you could begin to reason in a far more sound way.”

“I have eight pages on Paul’s system,” says Harvard psychologist Jerome Kagan, referring to his own book, Psychology’s Ghosts: The Crisis in the Profession and the Way Back (2012). To Kagan’s thinking, while McHugh’s first three categories can all lead back to biological roots, “Family four was his brilliant idea; that any of the symptoms in families two [personality dimensions] or three [motivated behaviors], can have mainly environmental causes.”

“Consider,” Kagan says by way of example, “that the best predictor, right now, in any part of the world, of whether you’re going to have anxiety, depression, impulsive aggression, gambling, or drug abuse is the social class in which you grew up.” By solely using DSM, social status might never be discussed on the way to, say, a diagnosis of depression with resulting treatment being anti-depressive drugs. However, using McHugh’s approach that considers environment, the diagnostician might uncover that the onset of the patient’s depression coincided with his being laid-off six months previously, and part of the long term therapy might include engaging social workers to help the patient find employment.

McHugh also notes the perspectival approach could be used by family practitioners to help them better evaluate which conditions can be handled comfortably in an internist’s office—especially given their longtime familiarity with most patients—and which should be referred out to psychiatrists, who in many cases could work with the internists to help diagnose and best manage care.

McHugh said he wrote the NEJM essay because, after more than a generation of teaching the perspectives he wanted to give them a public airing, especially in light of the development of DSM 5, which has been in the study group phase since 2004 and is set to be released next year. Given that, as he notes, the APA will “make millions in royalties” from the publication of DSM 5, it would be a “failure of leadership” if the book is identical in scope to the previous two that focused exclusively on descriptions of illness. “Every discipline has a right to go through a descriptive phase. We’re not blaming anybody for that,” says McHugh. “But you begin to criticize [leadership] when they say they can’t move out of the descriptive phase. We’re saying, after a generation of description, you’re going to bring out a new edition and the only thing you’re going to tell us is you’ve discovered a few other diagnoses? You don’t need a new field guide, if that’s the best you’re going to do. The time has come to move toward explanation.”

FOR AS MUCH as the DSM is being debated for its impact on patients, far less chatter surrounds the effect it has on medical students and residents at institutions where it is treated as The Book. McHugh strongly believes that such “training to the test” has the effect of driving would-be psychiatric residents into other fields.

“The textbook education using just the DSM does such an injustice to the field,” says second-year Hopkins psychiatric resident Rachna Hundal. Her own medical school psych rotation in Philadelphia, she says, “was just about DSM. We were taught based upon DSM definitions. Our exams were DSM definitions. That education did not draw anyone into the field.”

Even with a serendipitous mentor or attending physician who can see beyond the DSM and excited a student about psychiatry, many young doctors arrive at Hopkins after medical school—or even residencies—completely dependent upon the manual.

Kotsas Lyketsos, chairman of psychiatry at Johns Hopkins Bayview, worries that this can draw the wrong people to the field. “The DSM gives the appearance that psychiatry is easy, so people who are interested in basic research would be happy to come through psychiatry, learn the checklist, get the imprimatur of being a psychiatrist [with no intent of engaging clinical practice], and not really learn what it’s really like to think through a problem facing a patient.”

What Lyketsos and colleague Margaret Chisolm are doing is taking McHugh’s perspectives one important step further—to a place that they hope will attract more medical students to psychiatry. McHugh’s textbook on the subject is considered a masterwork, notes Chisolm, but it’s not easily digestible for students relatively new to the game. The joy has always been in listening to the entertaining McHugh speak, she says. This oration was the most accessible way to pass along his insights about the perspectives to students. It fell upon Lyketsos and Chisolm to set the sermons in stone, or as Lyketsos jokes, given his Grecian upbringing, “we had Homer; what we needed was the Iliad.”

Their new book, Systematic Psychiatric Evaluation, seeks for the first time to put rules to McHugh’s perspectives and give diagnosticians more confidence in their global assessment and treatment of patients. “Rule number one is, you want to take a complete history, and there are certain elements that go into that. You want to ask general questions that are not directing the answers,” says Lyketsos. “Remember, in DSM you can’t do that; in DSM you’re directly asking questions that say ‘do you have this symptom or that symptom?’ So if you were strictly applying just DSM, you could not ask open-ended questions.”

In the end, what Lyketsos, Chisolm, and McHugh are looking for in future psychiatrists is—well, there’s no other word for it—perspective. It’s not about throwing out the DSM. “It drives treatment authorization, so you need as a practitioner to learn enough about it to use it, just as long as it doesn’t drive patient care,” says Lyketsos. Instead it’s about emphasizing the “perspectival approach” to best guarantee that every appropriate treatment option can be explored.

Will the approach ultimately find its way into DSM 5? Probably not, given the publication’s deadline of 2013. But by going public with his critique of the DSM process, McHugh is no longer a lone voice in the wilderness.

“Paul is a man of conscience and courage,” says Frances, who criticized DSM 5 because of his concerns that proposed expanded new diagnoses could, as he wrote in a New York Times op-ed in May, “define as mentally ill tens of millions of people now considered normal.”

“Paul is part of the inspiration of me [writing publicly] about this stuff,” says Frances. “It’s not really part of my personality to be a crusader, but he’s an example that you can’t just sit on the sidelines.”

Not while there’s work still to be done. *
In his quest to find answers to his daughter’s genetic condition, Hugh Rienhoff ’82 has gone “rogue”—and become a minor celebrity in the world of do-it-yourself biology.

By Sharon Tregaskis
Photos by Leah Fasten
Hugh Rienhoff gives Bea a lift, in the backyard of their Bay Area home.
With the air of a mini-docent, Bea Rienhoff stops short in front of a prehistoric shark’s jaw at Baltimore’s National Aquarium. “A whole family can fit inside!” she declares. She and her older brother MacCallum have spent all day touring Charm City as their dad, Hugh Rienhoff ‘82, met with former colleagues, research collaborators, and Bea’s doctor, Hal Dietz, the Victor A. McKusick Professor of Genetics at the School of Medicine.

Later, as they walk along the Inner Harbor, Hugh keeps an eye on his slight daughter, who’s clearly losing steam. “Do you want a ride, Bee Bee?” he offers, effortlessly sweeping her up. Off her feet—clad in black sneakers to anchor the orthotics that support her arch and stabilize her ankles—she perks up and Rienhoff regales the kids with tales of his adventures in the neighborhood in the early 1990s. Back then, Rienhoff worked as a venture capitalist for New Enterprise Associates, whose offices overlooked the docks nearby.

With her contemplative manner, punctuated by bursts of enthusiasm, it’s easy to imagine Bea wrapping any adult—not least her father—around her little finger. What’s not so obvious on meeting this pint-sized yellow belt in kung fu is the role she and her father have played in promoting DNA-based personalized medicine.

It would take a trained clinical geneticist—her father, for example—to detect the subtle traits that suggest that Bea’s slight frame and wide-set hazel eyes owe to a mutation among the genes that program some of the earliest steps in embryological development.

In his ongoing quest for a definitive diagnosis for his daughter, Hugh Rienhoff has taken a page from each of the careers he’s pursued since he earned his MD at Hopkins—incorporating a dash of do-it-yourself genetic diagnostics, a healthy dollop of Internet-based crowdsourcing, and the insights of a widely distributed team of academic experts. His approach has garnered criticism as well as praise, and there have been plenty of dead-ends.

But Rienhoff is circling ever closer to insights about the biology behind Bea’s low muscle mass and the resulting weakness and fatigue—information he hopes will provide clues to how her condition will play out over time.

Building a Gene Trust
Bea was born in December 2003, a few months after her father’s 51st birthday. Yet even before she left the delivery room, the pediatrician flagged some subtle indicators of genetic trouble: Bea had a port-wine stain on her face (since faded), poor muscle tone, disproportionately long feet, and tightly clenched fingers and toes. The constellation looked a lot like Marfan syndrome.

If anyone was equipped to make sense of Bea’s symptoms, it was her father, by then a Silicon Valley-based biotech entrepreneur and venture capitalist at the leading edge of the move toward consumer-oriented genomic sequencing.

As a fellow in clinical genetics at Hopkins in the late 1980s, Rienhoff had trained at the elbow of the legendary Victor McCusick ’46, founder of Hopkins’ Division of Genetic Medicine and an early expert on the molecular underpinnings of Marfan. During training, Rienhoff himself had examined dozens of adults with the condition, which is caused by an anomaly in the transforming growth factor-β pathway responsible for connective tissue and musculature.

When Rienhoff left Hopkins in 1992, it was for a stint as a managing partner at the Baltimore office of New Enterprise Associates, a life sciences venture capital firm. There, he combined his insights into clinical practice and a knack for business with a vision for how the Internet could empower patients and improve health care. Along the way he forged connections with physician-entrepreneur Seth Harrison and worked closely with James Clark, founder of Netscape and Healtheon (now WebMD).

A voracious reader, Rienhoff steeped himself in issues related to intellectual property, clinical trials, and trends relevant to the emerging biotech sector. It took him just a few years to come across the technology that would anchor his own first startup.

In 1998, he moved to California’s Bay Area to found DNA Sciences, based on a high-throughput device to speed large-scale genomic sequencing in the lab. By recruiting volunteers from around the world who would provide both medical histories and DNA samples, DNA Sciences sought to create a “gene trust” for use by scientists seeking the precursors to disease, as well as pharmaceutical and other life sciences companies developing diagnostic tests and treatments based on the genome.

The $3 billion Human Genome Project had passed its midpoint that year and the promise of personalized medicine—the notion that both prevention and cure could be tailored to a person’s unique genetic predispositions—had become something of a holy grail. Funded by Harrison’s venture capital fund, DNA Sciences boasted an all-star board of directors including Netscape’s Clark and James Watson (with Crick, of double-helix fame). “The knowledge we gain from the gene trust has the potential to change medicine forever,” the company’s site promised in 2000. “But we can’t do it without your help.”

It was a grand vision. By that time the company had raised more than $100 million and grown to nearly 200 employees. But when the dot-com bubble burst in 2001, DNA Sciences’ bottom line went with it. The day before the twin towers fell in Manhattan, the board announced a lay-off of half the firm’s employees; Rienhoff stepped down as CEO.

Three years later, the company filed for Chapter 11. “The tech wreck happened right as we were going public,” says Harrison. “It was literally a plane crash.”

Rienhoff retrenched, investing in other biotech startups, serving on the boards of directors for a handful of them,
and tending his growing family with wife, Lisa Hane. Son Colston was born in 1998 and MacCallum in 2001. In the delivery room with Hane and their new daughter in 2003, Rienhoff was all father and husband. Back home, though, his clinical training spurred him up the stairs to his attic office, where he devoured his former mentor’s papers on Marfan. Bea was 10 days old when an orthopedist suggested that she had Beals, also associated with mutations in the TGF-β pathway. Rienhoff did his reading, then sent Bea’s records to Rodney Beals himself, an orthopedist in Oregon. Not a fit.

By the time Bea was five months old, her symptoms were more alarming: She still had poor muscle tone and while her limbs were all growing at a healthy clip, she wasn’t gaining weight. “For a mother, the most important thing is that you’re feeding your child, that she’s getting enough to eat,” says Hane. The two undertook an evaluative 36-hour inpatient hospitalization to determine whether Bea would need supplementation with a feeding tube. “At the end of it,” says Hane, “they concluded that she was feeding properly, she was getting nutrition, she just wasn’t growing at the normal rate.”

Specialist after specialist examined the infant, offering up a potpourri of diagnoses: amyoplasia congenital, cystic fibrosis, metabolic syndromes, a mitochondrial defect. Rienhoff dived even deeper into his reading, putting out the word among friends and former colleagues on both coasts, seeking referrals to someone expert enough to name his daughter’s condition.

When Bea started standing, another clue emerged. She had to use her arms, bracing them against her legs for extra leverage, to push herself erect. Rienhoff recognized the tactic as a classic indicator of Duchenne’s muscular dystrophy, a fatal condition caused by a recessive gene. “I needed a comprehensive, old-fashioned assessment of her symptoms,” says Rienhoff, who called his former colleagues in Baltimore. “I needed to come back home—Hopkins is really grounded in the clinical arts and that’s really the big message of my Hopkins education: Lay your hands on, get a good history, and most of the time you’ll get the diagnosis.”

In March 2005, Bea had a comprehensive exam with a team of pediatric clinical geneticists at Hopkins’ Institute of Genetic Medicine. They suggested a particularly terrifying TGF-β anomaly—now known as Loeys-Dietz for the two Hopkins professors who described it in a January 2005 Nature Genetics article. People with the mutation develop such profound aortic warps and arterial convolutions that they rarely live beyond their mid-20s.

Bea underwent an echocardiogram just days after her return home. Rienhoff watched the entire procedure like a hawk. As with each sonogram that Bea has had since, it showed no sign of vascular disease. A subsequent genetic test confirmed that the Loeys-Dietz diagnosis didn’t fit either.

Rienhoff breathed a sigh of relief, but he was far from satisfied—plagued, he recalls, “by the unanswered question” of whether Bea was at increased risk for the ticking time bomb of vascular disease.

The Bea Project is Born

How do you mark the launch of a quest? Is it the first time the vision is spoken aloud? The bottle, smashed against the hull of a ship when the craft is christened?

For Rienhoff, the journey to understand Bea’s biology happened in stages. By the time Loeys-Dietz was off the table, Rienhoff knew that uncovering Bea’s diagnosis would require more than just literature reviews, clinical exams, and consultations with experts. Someone was going to have to analyze each of the genes implicated in Bea’s TGF-β pathway, looking for the unique mutation at the heart of her symptoms, including the one most complicating her life—an inexplicable dearth of muscle growth.

What happened next has made Rienhoff a minor celebrity in the do-it-yourself biology world and a lightning rod in the debate over personal genomics. Rienhoff launched “The Bea Project” by contacting scientists investigating the TGF-β pathway and asking them to analyze Bea’s samples. Rienhoff was determined to be his own scientist, and he believed that others should be as well.

“I’m not content to wait for a paradigm shift,” says Rienhoff. “I want to be responsible for one.”
pathway to ask if they'd sequence that part of Bea's genome. Hopkins’ Se-Jin Lee, MD/PhD ’89, a professor of Molecular Biology and Genetics and an expert in the TGF-β gene responsible for curtailing muscle development, was among many who declined to participate.

What Rienhoff was proposing was technically an experiment, Lee pointed out. For any academic scientist to touch so much as a hair on Bea's head—let alone start sequencing her genes—an institutional review board (IRB) would have to give its blessing.

Rienhoff felt he didn’t have the time to wait for IRB approval, and back then, consumer-targeted whole genome sequencing cost $350,000. Even more than cash, this dad had connections—to used equipment, to labs for hire, to help and guidance from the cadre of experts, many of them personal friends, with whom he’d been consulting.

Rienhoff decided to sequence his daughter’s DNA himself.

He started with a visit to a phlebotomist—Rienhoff has never drawn Bea’s blood or performed any other medical procedure on her, citing both the Hippocratic oath and his duties as a father. Vial in hand, he went to the Stanford lab of Nobel laureate Andy Fire, who provided access to tools for extracting Bea’s DNA. And then with a collection of used equipment purchased for less than $2,000 and installed in his basement, Rienhoff amplified the DNA in his daughter’s white blood cells, harvesting enough genetic material from the phlebotomist’s sample that a for-profit lab could sequence the strands associated with the TGF-β pathway.

When the results came back, Rienhoff copied the entire sequence into a Microsoft Word file, then painstakingly reviewed each string of letters looking for diversions from the associated sequence published in the Human Genome Project. With Lee’s guidance, Rienhoff started with receptors for myostatin, the gene to which Lee has devoted his research. When he found nothing there, he expanded his search to the rest of Bea’s TGF-β pathway. The work was slow and painstaking, a process he’s described as “hand-to-hand combat.”

“There’s so much data and no good software to analyze it,” he says. “When you’re talking about 20 million [base pairs], you need a collaborator to look at it.” With that, Rienhoff took the Bea Project public. Nature put a photo of Hugh and Bea on its cover. Wired and Discover ran stories. He penned a feature-length, do-it-yourself article for Make magazine, and gave talks at Google, Cold Spring Harbor, and at UCLA, for a conference on “outlaw biology.”

“I'm definitely outside the establishment, whether it's big pharma, biotech, or academia,” he says. “I'm a gypsy and I prefer that—there's so much more freedom to work with different kinds of people in industry, academia, in different companies.”

Rienhoff also took to the Internet, launching MyDaughtersDNA.com, intended as a forum for parents of children with undiagnosed congenital conditions and the clinical geneticists who might be able to help. Ideally, he would find another Bea, and if nothing else, he could empower other parents like himself, looking for answers.

Duke University’s Misha Angrist, who had his own DNA sequenced and published for the Personal Genome Project, is author of Here Is a Human Being: At the Dawn of Personal Genomics. In the book, he writes extensively about the intellectual property and privacy issues associated with genetic material, as well as Rienhoff’s work at DNA Sciences and on the Bea Project.

“Hugh knows what he doesn’t know, and he’s constantly looking for advice and support and insight,” says Angrist. “For him, it’s not an academic reputation or publishing papers or getting grants or winning prizes. He wants to save his daughter’s life and that dwarfs every other consideration. There really is no other consideration.”

Having failed to discover the explanation for Bea’s symptoms by comparing her TGF-β pathway to that of the Human Genome Project reference, Rienhoff turned to his longtime friend and colleague Jay Flatley, the CEO of Illumina, a giant in the world of consumer, agricultural, and medical sequencing technology.

In 2008, a team at Illumina sequenced all the expressed genes of Bea, her brothers, and their parents. Rienhoff took the results to his attic office, poring over the files in search of variants in Bea’s file. In late 2009, he narrowed in on a likely mutation. "I'm definitely outside the establishment, whether it's big pharma, biotech, or academia,” he says. “I'm a gypsy and I prefer that—there's so much more freedom to work with different kinds of people in industry, academia, in different companies.”
of the population around the world would be like Bea,” says Rienhoff. “That told me we had to cast the net further—we had to start looking at the whole genome.” He went back to the drawing board, getting Illumina to sequence the entire family’s genome.

Alan Beggs, PhD ’88, a professor of pediatrics at Harvard and director of the Manton Center for Orphan Disease Research at Boston Children’s Hospital, consults regularly with Rienhoff on the genetic pathways associated with the inherited muscle weaknesses he investigates. Beggs notes that while he works with hundreds of parents grappling with “orphan diseases”—conditions so rare they attract minimal attention from scientists and pharmaceutical companies—Rienhoff is unique both in his scientific training and access to resources.

While Beggs calls Rienhoff’s degree of involvement an “extreme case,” he also believes the quest to understand Bea’s biology promises new insights into other facets of both muscle weakness and orphan diseases—the intellectual legacy of Victor McKusick, who emphasized the insights to be gleaned from studying singular conditions.

Says Beggs, “[Bea] may have a mutation in a gene that’s of interest to a lot of people, and reveal things about muscle that would be useful to people with many different conditions. Learning about her has the potential to inform us about something much more common.”

Based on his latest research, Rienhoff now believes that the structural heart and circulatory defects that kill many people with TGF-ß anomalies—including those with Loeb-Dietz and Marfan—are less likely to afflict Bea.

“The biochemistry that we’ve done suggests a different mechanism of disease.” More likely, he believes his daughter’s long-term health challenges will involve orthopedic issues: While her limbs are as long as those of any other child her age, her scant muscles tire quickly.

Shifting the Paradigm
This fall, Bea Rienhoff started third grade. Her favorite subject is art, especially sculpture. At home, she helps with the dishes and takes turns feeding the family’s outsized rabbits. Other than her specially crafted orthotics and regular occupational and physical therapy, she’s pretty much just like any other kid, taking piano lessons and practicing her kung fu.

“There are some physical things she’s not strong enough to do,” says her mother, “but I’ve always tried to deal with her like I have with the boys. Bea has certain motor deficits still, but it’s just a daily part of our lives.” More powerful is the girl’s fearlessness and an independent streak. When the family was traveling in Ecuador this summer, Bea found a kid-sized tuxedo, as well as a perfectly fitted black fedora, trimmed with a peacock feather. She wore the combo for much of the remainder of the trip. “When her classmates see her and interact with her they recognize a physical uniqueness about her,” says Hane. “Instead of letting those physical distinctions get her down, she embraces them and takes them as her own, a sort of take-it-or-leave-it approach.”

Now free of the looming terror of an aortic blowout for Bea, Rienhoff has turned his attention to understanding the basic science of the TGF-ß pathway and its role in development. To do so, he’s begun integrating insights gleaned from a half dozen scientists at Harvard, Hopkins, and other academic medical centers. “I want to study TGF signaling in a whole animal,” he says. “There are multiple layers of regulation of the pathway.”

This fall, Rienhoff was submitting a case report about Bea to a peer-reviewed journal. “You have to be persistent, systematic, scientific,” he says, “but if you just follow the current paradigms, you’re likely to have to wait for a paradigm shift. That’s the nature of science, but I’m not content to wait for a paradigm shift. I want to be responsible for one.”

Already, the insights Rienhoff has gleaned from overseeing the Bea Project have infused his professional trajectory—and an emerging model in drug development—over the last five years.

In 2007, he launched Ferrokin BioSciences, a micro pharmaceutical company that is testing a chelation drug to counter the iron toxicity that accompanies frequent transfusions. The company owes its distributed research and development model to the experience Rienhoff has had working with TGF-ß experts around the country. Last spring, Dublin-based Shire acquired Ferrokin in a deal worth more than $100 million. Shire retained Rienhoff and four other of the company’s employees, as well as a few of the 60 contractors who had designed and executed the Phase I and II clinical trials of Ferrokin’s compound.

In addition to his new duties with Shire, Rienhoff continues his monthly pilgrimage to Harvard, where a Bea Project scientist has been analyzing the TGF-ß pathway’s influence on muscle development in embryonic frogs. Meanwhile, a team in Arizona has begun development on a knockout mouse with a mutation to its TGF-ß pathway that mirrors the one in Bea’s genome. Eventually, Rienhoff hopes to learn whether the “Bea mouse” develops vascular disease.

The mice and frogs are interesting, says Rienhoff, but in the end his daughter isn’t her disease. “Bea defines herself—and we all define her—in terms of what she can do and who she is,” he says, “not what she has.”

“She has so many adaptations that allow her to be herself,” says her father. Over the summer, while her older brother rehearsed for his part as Frederich in The Sound of Music, Bea banged out the tune to “Somewhere Over the Rainbow” for her father on the family piano. “It’s poignant,” Rienhoff admits, “but we’re out of the acute phase and dealing with something chronic now—our relationship is based on admiration.”
The Success of Failure

For Chuck Tuchinda, new products mean big business.

In a 20-month period between 2006 and 2008, Charles (Chuck) Tuchinda ’01 oversaw the introduction of three new medical information technology products, earning his then employer $25 million in new business. But Tuchinda insists his method for success “is all about failure.”

“It's all about experimenting and failing early,” explains Tuchinda, 37, now chief innovation officer for the health care arm of Hearst Business Media and VP for innovation at two of its subsidiaries, Zynx Health and First Databank. “Rather than try to be a fortune teller, saying, this definitely will be the thing that works, I test several ideas by prototyping them, get feedback, and then make a more informed decision about which to pursue.”

“I launched two products last year and I probably had 18 other projects fail, to get a yield of two,” he adds. Yet those two products already have earned Hearst more than $1 million in new business.

One of them is alertSpace. It is designed to improve the alert system in many electronic medical record programs, which can bombard physicians and cause “alert fatigue.” “We wanted to build a system that would work with the major EMRs and cut out the ‘noise’ so that each message had some meaning to it,” he says. alertSpace went from the drawing board to clients in about six months, which is “relatively fast for this industry,” he says.

Tuchinda’s interest in medical software started at Hopkins when his research project, overseen by pediatric cardiologist W. Reid Thompson (fellow, hs, 1984-87), led to development of a heart sounds database. At Hopkins he also invented PagerBox, an online system that sends text messages directly to alphanumeric pagers, cellphones, and other devices and keeps patient information flowing to the internal faculty and staff. He and oncology researcher Luis Díaz (HS, 1998-2001; fellow, 2001-04, faculty, 2004-07) worked together to ensure that PagerBox re-engineered the process of inpatient health care practice.

After completing his internship and residency at Hopkins, Tuchinda earned an MBA at Harvard in 2006 and then quickly assumed three vice presidencies—for business development and product strategy, acute care solutions, and content solutions—at San Jose, Calif.-based Eclipsys Corp., a health care IT solutions vendor later acquired by Allscripts. He assumed the Hearst Business Media jobs, with offices in San Francisco and Los Angeles, in 2010.

Tuchinda and his wife, pediatrician Lynn Peng ’01, have two daughters, Alexis, 6, and Natalie, 4. He says it’s too early to tell if they will enter the family business of medicine. “One of my daughters has said she wants to be a doctor … but she also said she wants to be a Power Ranger.”

Neil A. Grauer
Pushing the Limits
Hildreth honored for his influence in combating HIV.

Raised in the small southern Arkansas city of Camden, James E. K. Hildreth ’87 recalls his mother telling him, “Your circumstance does not limit your possibilities.”

“James has lived by that motto to become one of the most influential HIV doctors in the world,” said Dean/CEO Edward Miller, who recently retired. “He is a model alumnus.” Hildreth was named to the Society of Scholars in April and received a 2012 Alumni Association Knowledge for the World Award in May. Both honors recognize his extraordinary achievements as an internationally renowned AIDS researcher, mentor to other medical scientists, and academician.

Today, as dean of the University of California, Davis, College of Biological Sciences, Hildreth oversees 125 faculty, 5,312 undergraduates, and 455 graduate students, and manages a $90 million budget, which includes nearly $60 million for research. He particularly enjoys introducing undergraduates to the lab. “Almost every year, I invite a few undergraduates to work in my lab. [They] ask the questions no one else thinks to ask, and sometimes they come up with the answers no one else has thought of,” he says.

A 1979 graduate of Harvard, Hildreth became the first African-American Rhodes Scholar from Arkansas. After earning a PhD in immunology from Oxford in 1982, he began medical school at Hopkins. He joined the faculty upon graduation and rose steadily in the ranks, becoming the first African-American in Hopkins history to earn a full professorship with tenure in the basic sciences, in 2002. From 1994 to 2001, Hildreth also served as the first associate dean for graduate student affairs. While in that job, he created a summer research program for underrepresented minorities and actively recruited undergraduate students to graduate programs.

Hildreth’s research on AIDS, begun in 1986, has resulted in more than 80 scientific articles and seven patents. One protein he discovered while at Oxford is the basis for an FDA-approved drug, Raptiva, used to treat psoriasis.

During a seven-month stint in 2001 as chief of the NIH’s Division of Research in the National Center on Minority Health and Health Disparities, Hildreth and his research team discovered that cholesterol is active in HIV’s ability to penetrate cells, and that removing the fatty material from a cell’s membrane can block infection. With that knowledge, Hildreth’s team then developed an odorless, undetectable contraceptive vaginal cream that destroys the AIDS virus and holds the promise of stopping the disease’s transmission. NAG

Hildreth helped develop a contraceptive cream that destroys the AIDS virus.

previously published The History of South Carolina, a collection of the writings of his great uncle, the Reverend Robert Lathan.

1966
Thomas Vander Salm, of Salem, Mass., chief of cardiac surgery at North Shore Medical Center Heart Center and clinical professor of surgery at Harvard Medical School, has been named the 2012 Community Clinician of the Year by his physician peers of the Essex South District Medical Society.

1967
Richard Bransford, of Kijabe, Kenya, has received the American College of Surgeons’ 2012 Surgical Humanitarian Award in recognition of his more than three decades of service in Africa, primarily in the African Inland Church (AIC) Kijabe Hospital. In 2004, he co-founded a 67-bed facility, BethanyKids at Kijabe Hospital, which has become known widely in Africa as a referral center for disabled children and is supported by a network of 14 outreach clinics across Kenya.

1969
Richard Bensinger, of Seattle, Wash., recently finished a one-year term as president of King County Medical Society.

1973
Mark Rockoff, of Hingham, Mass., has been elected to a one-year term as president of the American Board of Anesthesiology. He is also vice-chairman of the Department of Anesthesiology, Perioperative and Pain Medicine at Children’s Hospital Boston and professor of anesthesiology at Harvard Medical School.

1974
Lawrence Wasser, of Louisville, Ky., is director of the Newborn Nursery at the University of Louisville Hospital and on the faculty of the Louisville School of Medicine in general pediatrics.
1975
Shelby Wilkes, of Atlanta, Ga., was chosen as the 2012 Male Alumnus of the Year for America’s Historically Black Colleges and Universities. Wilkes is a vitreoretinal surgeon who specializes in treating diseases of the retina and vitreous humor, including diabetic retinopathy.

1977
Kenneth Laws, of Nashville, Tenn., has joined the five-hospital Saint Thomas Health system as a cardiothoracic surgeon and has helped to establish a new practice, Heart, Lung & Vascular Surgery.

1978
Kenneth Tyler, of Denver, Colo., was elected as a 2012 Academy Fellow of the American Academy for Microbiology.

1981
Scott Lippman, formerly of Houston, Texas, was named director of Moores Cancer Center at University of California, San Diego. He is nationally known for his molecular studies aimed at determining cancer risk and at developing methods for personalized treatment and prevention of cancer.

1983
W. P. Andrew Lee, of Baltimore, professor and director of Hopkins’ Department of Plastic and Reconstructive Surgery, was recently elected as chair of the American Board of Plastic Surgery, Inc.

1984
Joseph Marotta, of Troy, N.Y., has established Medicus in Christi, Ltd., a non-profit organization that provides medical care, equipment, and training to impoverished peoples in the developing world. Marotta has also established an orthopedic center in Ghana, West Africa.

1985
Ralph Hruban, of Baltimore, professor of pathology and oncology in the School of Medicine, has

Decoy Diagnostician

James uses X-rays to spot “fake” waterfowl imposters.

A. Everette James Jr. got his first taste of waterfowl hunting on Maryland’s Eastern Shore in the early 1970s, when he was an associate professor and director of the School of Medicine’s radiological research laboratories. He was enchanted by the decoys that are used to lure live birds within shooting range.

“They looked like floating folk sculpture to me,” recalls James, who went on to become head of radiology at Vanderbilt from 1975 to 1992 and founder of its Center for Medical Imaging Research. “When I found out that they used these beautiful objects to throw in the water and hunt; and people abused them, broke them and burned them; let them float away; stole them. I mean, the attrition rate.”

Indeed, it is precisely that attrition in wooden waterfowl decoys—the finest of which were hand-carved and painted between the late 19th century and middle 20th century—that has made them so prized by connoisseurs of American folk art. (To date, the highest auction price for a decoy has been the $856,000 fetched in 2007 for a red-breasted merganser hen, carved by Lothrop Holmes.)

While at Hopkins, James began collecting decoys and foresaw the likelihood that fakes were bound to flood the marketplace. His solution? Use radiography as a noninvasive, sensitive method for documenting a decoy’s condition, age, and authenticity. Beginning his X-raying of decoys at Hopkins, he continued the practice at Vanderbilt.

James has used Sherlockian precision to determine the significant things to look for in decoy X-rays: invisible fractures or hairline cracks; the extent and distribution of old paint; the age, condition, and placement technique used for such “internal hardware” as the nails used to affix the decoy’s head and neck to the body and the weights for steadying it upright in the water.

The X-rays even can determine if fabricators have used intentionally rusted nails to make bogus decoys look old, he notes, since “the rust will be located at the entry as it will have been sheared from the surface of the nail when it was positioned.” A well-known decoy-maker’s use of nails also can be as distinctive as a signature, he adds.

Now 74, James doesn’t X-ray that many decoys these days but is happy to review and analyze X-rays sent to him by others. His own collection of decoys has dwindled since he and his wife, Nancy Jane Farmer, began donating their extensive collection of folk art—including paintings, quilts, and pottery—to museums, among them the St. James Place Museum that they created by restoring a 1910 Baptist church in his hometown of Robersonville, North Carolina.
Faculty, Fellows, House Staff


Ashok Kumar (faculty, radiology, 1974-91), of Houston, Texas, is chief of neuroradiology at the University of Texas MD Anderson Cancer Center. He is rated one of *U.S. World News & Report*’s Top Doctors.

Kathryn Gardner (faculty, radiology, 1991-92), of New Albany, Ohio, has been inducted as a fellow in the American College of Radiology. Gardner is currently vice president of Radiology, Inc., medical director of Mt. Carmel West Women’s Health Center, and a radiologist with the Mount Carmel Health System.

Society of Scholars

Ten alumni, former house staff, fellows, and faculty were inducted into the Society of Scholars last spring. Created in 1967, the society honors those who have gained distinction since leaving Hopkins in physical, biological, medical, social, or engineering sciences. The latest inductees are:

- **Timothy Buchman** (HS, surgery, 1980-85), founding director of Emory University’s Center for Critical Care
- **James E.K. Hildreth ’87** (fellow, pharmacology and experimental therapeutics, 1983-84; faculty, pharmacology and molecular sciences, pathology, immunology and infectious diseases, 1987-2005), dean of the College of Biological Sciences, University of California, Davis
- **Christoph Lengauer** (fellow, oncology, 1994-96; faculty, 1996-2005), chief scientific officer, Blueprint Medicines
- **Vincent Mangiello ’67** (HS, pediatrics, 1967-68), chief of the Laboratory of Biochemical Physiology in the Cardiovascular and Pulmonary Branch of the National Heart, Lung and Blood Institute
- **Teri Manolio** (fellow, general internal medicine, 1984-87), director of the Office of Population Genomics at the National Human Genome Research Institute
- **Stephen McPhee ’76** (HS; fellow, medicine, 1976-80), professor emeritus of medicine at the University of California, San Francisco
- **John A. Phillips III** (fellow, pediatric genetics, 1975-77; faculty, pediatrics, 1977-84), head of the Division of Pediatric Genetics at Vanderbilt University’s School of Medicine
- **Robert Schleimer** (fellow, allergy and clinical immunology, 1979-81; faculty, medicine, 1981-2004), chief of the Division of Allergy-Immunology; professor of medicine and otolaryngology—head and neck surgery, Northwestern University’s Feinberg School of Medicine
- **Arjun Srinivasan** (HS; fellow, medicine, 1996-2001; faculty, medicine, 2001-2008), associate director for Healthcare Associated Infection Prevention Programs, Centers for Disease Control and Prevention
- **Steven Wesselingh** (fellow; faculty, neurology, 1991-94), executive director of the South Australian Health and Medical Research Institute

begun posting a series of “Osler Minutes” on the Department of Pathology’s website: [http://pathology.jhu.edu/department/about/history/osler-minutes.cfm](http://pathology.jhu.edu/department/about/history/osler-minutes.cfm).

Charles Sawyers of New York, N.Y., is president-elect of the 14,000-member American Association for Cancer Research. Sawyers is chair of the Human Oncology and Pathogenesis Program at Memorial Sloan-Kettering Cancer Center and a Howard Hughes Medical Institute investigator. He also is a professor in the cell and developmental biology program in the Department of Medicine at Cornell’s Weill School of Medicine.

1987

Carolyn Cidis Meltzer, of Decatur, Ga., William P. Timmie Professor and Chair of Radiology and Imaging Sciences and associate dean of research at Emory University’s School of Medicine, was honored for her accomplishments at Emory’s Second Annual Women’s History Month program. Meltzer led the clinical evaluation of the world’s first PET/CT scanner.

1995

Jeffrey Wiese, of New Orleans, La., has been elected to the Board of Regents of the American College of Physicians. He is a professor of medicine and associate dean of graduate medical education at Tulane University.

2000

Jennifer Arnold, of Houston, Texas, one of the stars of the popular TV program *The Little Couple*, was the keynote speaker at the University of Texas Medical Branch School of Medicine commencement ceremony. Arnold is medical director of the Pediatric Simulation Center at Texas Children’s Hospital and assistant professor of pediatrics at Baylor College of Medicine.
H. Fred Helmholz ’37, of Rochester, Minn., acclaimed for developing respiratory care as a specialty, died on Jan. 7, very shortly after his 100th birthday. At the Mayo Clinic, he performed some of the first pulmonary function tests, and helped launch a school for respiratory therapy. He was also a founder of the American Association of Respiratory Care.

Michael DiMaio ’39, whose 35-year, award-winning career as an internist in private practice and at the Rhode Island Hospital in Providence included nearly a quarter century as head of the medical review board that licenses physicians to practice in the state, died on Jan. 24. He was 99.

Bettina Meyerhof Emerson, Feb. ’43, who spent most of her career caring for low-income families and children with developmental problems, died at her Seattle, Wash., home on Oct. 18, 2011. She was 93.

Loring W. Pratt, Nov. ’43, of Fairfield, Maine, a nationally recognized expert on the treatment of chainsaw injuries to the head and neck, and a former president of several national otolaryngology—head and neck surgery organizations, died on March 13 at the Maine General Hospital in Augusta. He was 93.

Karl Emil Hofmann Jr., ’46, a Birmingham, Ala., gynecologist, female urologist, and surgeon who served as chairman of the Department of Obstetrics and Gynecology at Birmingham’s Baptist Medical Center for two decades, died on Jan. 15. He was 90.

Charles W. Tillett ’46, of Charlotte, N.C., who developed the revolutionary corneal transplant procedure now known as DSEK in 1954—more than 40 years before its “discovery” by others was heralded—died on Oct. 19, 2011. He was 91. He headed the Tillett Eye Clinic in Charlotte from 1954 to 1987.

Ernst F.L. Niedermeyer, acknowledged worldwide as the foremost expert in electroencephalography and its diagnostic value, died of colon cancer on April 5 at the age of 92.

Niedermeyer was a master of the clinical interpretations of electroencephalograms (EEGs), recordings of the electrical activity in the brain; co-editor of his specialty’s longstanding “bible,” Electroencephalography—Basic Principles, Clinical Applications and Related Fields, now known as Niedermeyer’s Electroencephalography; and director of Hopkins’ electroencephalography laboratory from 1965 to 1990.

Born in Germany, he moved with his family to Vienna when he was a teenager. He was inducted into the German Army after high school, and began his medical studies even as World War II got under way. He was pulled from school and sent to join a Panzer division on the Russian front, however, when it was discovered that his maternal grandfather had been Jewish. Niedermeyer survived the horrendous battlefield winter of 1943-44, later telling a friend that he and his fellow soldiers didn’t care about the Army’s mission or Nazism, they just wanted to find enough to eat and avoid capture by the Russians.

Wounded twice, he eventually was captured by American forces in 1944 and then put on a U.S. troop ship full of wounded soldiers bound for home. He helped treat them, then was sent to prisoner-of-war camps in the Midwest and West. He returned to Austria after the war and earned his medical degree at Leopold-Franz University in Innsbruck, where he ultimately would become acting chief of the department of Neurology and Psychiatry.

When his hospital obtained an encephalograph under the postwar Marshall Plan, Niedermeyer had to learn how to use it after the technician who operated it was transferred. He quickly mastered the device, began applying its recordings of brain waves to his growing interest in epilepsy, and soon became instrumental in making electroencephalography a significant diagnostic and research tool.

Niedermeyer moved to the University of Iowa in 1960 and in 1965 to Hopkins, where he was named electroencephalographer-in-chief. By the time he retired in 1997, he had become “the most famous electroencephalographer in the world,” says neurologist and neurosurgeon Ronald Lesser, who succeeded Niedermeyer as head of the EEG lab. “He frequently was invited to lecture in other countries, and influenced the interpretation of EEG around the world,” Lesser says.

An avid hiker and mountain climber, Niedermeyer also was an excellent classical pianist. Neil A. Grauer
Lay M. Fox 47, of Austin, Tex., a veteran Navy captain who served as Lyndon B. Johnson’s cardiologist during LBJ’s presidency, died on April 23. He was 87. Following his retirement from the Navy after a 21-year career, Fox served as medical director of D.C. General Hospital; director of the heart station at Georgetown University Hospital; and worked in Georgetown’s cardiology and nuclear cardiology divisions until his retirement in 1997.

William L. Stewart ’51, a pioneer in establishing the family practice of medicine as a specialty, died on Nov. 18, 2011 in Highlands Ranch, Colo. He was 86.

James I. Hudson Jr. ’52, of Nashville, Tenn., died on April 27 at the age of 84. He was the founder and first director of Hopkins Hospital’s Comprehensive Child Care Program, a pediatric clinic for low-income families, and later director of the Department of Health Services for the Association of American Medical Colleges.

Andrew M. Nemeth ’53, of Wyoming, Pa., died on Feb. 7 at the age of 84. A professor emeritus of anatomy and a lecturer in psychiatry at the University of Pennsylvania, he served on the faculty there for 40 years. He also maintained a private psychiatry practice for many years.

James A. Schoettler ’37, of Chevy Chase, Md., who practiced psychiatry in the Washington, D.C. area for more than 40 years, died of bladder cancer on March 6 at his home. He was 80.

Paul W. Kohnen ’65, of Portland, Ore., died on May 7 at the age of 73. He was known to long-time colleagues at the Providence Portland Medical Center as “Professor PK,” a remarkably skillful pathologist, diagnostician, and indefatigable worker with a gentle wit.

Dennis Stevens Barlow ’85, of Eastford, Conn., died at his home on January 20. He was 52. Following internship and residency training at the Macha Hospital in Zambia, Africa, and the University of Vermont, he worked at the Mshabezi Mission Hospital in Zimbabwe for five years. He returned to Connecticut in 1994 and worked as an emergency department physician at Manchester Memorial Hospital in Manchester, Conn., and Rockville General Hospital in Vernon, Conn., for the remainder of his career.

Pioneer in Pulmonary Medicine
Permutt remembered for his warmth and wisdom.

Acclaimed physiologist Solbert (Sol) Permutt, a key figure in the creation and expansion of the School of Medicine’s Division of Pulmonary and Critical Care Medicine and a beloved mentor to generations of physicians specializing in those fields, died on May 23 of esophageal cancer. He was 87.

“It’s not possible to adequately describe the extent to which Sol’s curiosity, vision, and commitment drove not only the creation of our division but, to a significant extent, the creation of pulmonary medicine as a discipline,” said Landon S. King, professor of medicine, Hopkins’ vice dean for research and chief of pulmonary and critical care medicine.

“He was the smartest physiologist and one of the wisest men I will ever meet,” said physiologist Charles Wiener, professor of medicine, vice director of the Department of Medicine, and Dean/CEO of Perdana University Graduate School of Medicine.

Wiener, who came to Hopkins as a fellow in 1985, said he quickly found Permutt to be an extraordinary mentor: “He always had time for young people and loved sharing his experience, wisdom, and excitement for medicine, scholarship, and education,” said Wiener.

Born in Birmingham, Permutt earned his MD from the University of Southern California and came to Hopkins as a fellow in medicine and environmental medicine in 1956. Two years later, he became chief of the Division of Cardiopulmonary Physiology at the National Jewish Hospital in Denver. He returned to Hopkins in 1961 as an associate professor of environmental medicine at what now is the Bloomberg School of Public Health and remained on the faculty for nearly a half century. He became a professor of medicine and environmental health sciences in the School of Public Health in 1965 and a professor of medicine in the School of Medicine in 1972. He retired in 2006.

From 1972 to 1981, Permutt was director of the Respiratory Division in Hopkins’ Department of Medicine, assuming leadership of both the clinical and research programs. He inaugurated a collaborative program integrating the clinical, research, and educational activities of the division with programs in the School of Public Health. He also oversaw extensive growth in the division’s clinical program, including the opening of a new intensive care unit and a new bronchoscopy program, as well as of clinical consultative and inpatient services provided to other Baltimore-area hospitals.

More than six feet tall, Permutt was known for his seemingly boundless energy—riding a bicycle from his North Baltimore home to Hopkins Hospital well into his 70s—as well as his signature, large bow ties, which he began wearing as a teenager. NAG
Obituaries

Former Faculty, House Staff

Curtis Prout (HS, internal medicine, 1942-43), of Manchester-by-the-Sea, Mass., a primary care physician for more than 65 years and a widely known advocate for improving health care in prisons, died on December 2, 2011, in his home. He was 96.

William Henry Muller Jr. (HS, surgery, 1944-49; instructor, surgery, 1948-49), of Irvington, Va., who launched the open-heart surgery program at the University of Virginia; developed the pulmonary artery banding procedure for infants and children with certain kinds of congenital heart disease; and oversaw construction of a new University of Virginia hospital, died on April 19. He was 92.

T. Franklin Williams (HS, medicine, 1950-53, part-time lecturer, geriatrics, 1983-89), former director of the National Institute on Aging, and a pioneer in geriatric medicine, died of pneumonia at his home in Rochester, N.Y., on Nov. 25, the day before his 90th birthday.

John Anton Waldhausen (HS; fellow, surgery, 1954-57), a protégé of surgeon Alfred Blalock and founding chairman of the Department of Surgery at Pennsylvania State University College of Medicine, of which he also became interim provost and dean, died on May 15. He was 82. Following his training under Blalock, Waldhausen went to the University of Indiana Medical Center, where he developed the subclavian flap angioplasty that for many years was the standard treatment for coarctation of the aorta. It lowered the mortality rate of that disease from nearly 60 percent to 3 percent. He then moved to the Children’s Hospital of Philadelphia, where at the request of C. Everett Koop, he developed its congenital heart program.

Lonnie S. Burnett (HS, GYN/OB, fellow, microbiology, 1962-64), a leader of Vanderbilt University’s OB/GYN department, died on April 3 at the age of 84. While at

Neuroanatomist Nonpareil

As scientist and mentor, Molliver was a “mensch.”

Nearly every year from 1974 to 1994, neuroscientist and neurologist Mark Molliver received one teaching award after another—making it hard to determine which of his accomplishments had the most impact: his four decades of classroom influence on uncounted future neuroscientists or his landmark discoveries on the structure of the brain and its response to drugs.

Molliver died on May 10 at Johns Hopkins Hospital of complications following cardiac arrest. He was 75.

His friend and colleague Solomon Snyder, founder and long-time director of what now is known as the Solomon H. Snyder Department of Neuroscience, gives equal weight to both. “Mark was one of the country’s greatest neuroanatomists,” says Snyder, himself the discoverer of the brain’s opiate receptors. He credits Molliver with making “major discoveries about the role of serotonin,” the molecule in the brain most closely associated with feelings of well-being and happiness. “For years and years he also was the premier teacher of neuroanatomy for our medical students,” Snyder adds.

Neuroscientist David Linden, another former colleague of Molliver’s, agrees. “Mark was one of our very best teachers, extraordinarily gifted and clear,” says Linden. “What really stood out about Mark was his extreme collegiality and warmth, a gentle manner with everyone. He was scientifically critical when called for but a real mensch and always willing to help people.”

In addition to his discoveries about serotonin, Molliver uncovered the adverse impact on the brain of the obesity drug Fen-Phen, which was among the factors prompting the FDA to ban it in 1997. His research also produced important findings about the drug MDMA, commonly known as “ecstasy.” His research showed that both Fen-Phen and ecstasy caused brain neurons to die, leading to a reduction in serotonin levels.

Boston-born, Molliver received his undergraduate degree from Harvard in 1958 and his medical degree there in 1963. He came to Hopkins in 1965 as a postdoctoral fellow in neuroanatomy. He later held a second Hopkins postdoctoral fellowship in neurophysiology under Vernon Mountcastle ’42, often called the “father of neuroscience” for his discovery of the columnar structure of the brain’s cells.

In 1969, Molliver became one of the first residents in Hopkins’ then-just created Department of Neurology. He joined the faculty as an assistant professor of anatomy and neurology in 1971, then rose through the academic ranks until he held full professorships in neuroscience and neurology. Although he retired in 2006, he continued to come to work and attend departmental faculty meetings.

“Mark was tenacious and still passionate about research,” says Richard Huganir, director of the neuroscience department. “He still was collaborating with other faculty members and coming to meetings until two weeks before his death.” NAG
Hopkins, Burnett pioneered not only in vitro fertilization procedures but sex-change operations; at Vanderbilt, he oversaw development of a leading department in the field.

James Claris Wright Jr. (fellow, pediatric endocrinology and metabolism, 1961-64), of Indianapolis, Ind., died on Mar. 22. He was 81. Indiana’s first pediatric endocrinologist, Wright served as director of the pediatric endocrinology department at Indianapolis’ Riley Hospital for Children and as a professor of pediatrics at the Indiana University School of Medicine.

David L. Rimoin (HS, internal medicine, 1963-64; fellow, genetics, 1965-67; faculty, 1967-71), an acclaimed medical geneticist at Cedars-Sinai Medical Center in Los Angeles, died on May 27, just days after being diagnosed with advanced pancreatic cancer. He was 75. Rimoin conducted early studies of dwarfism and other skeletal abnormalities while at Hopkins, and subsequently played a pivotal role in creating screening programs for Tay-Sachs disease. Such programs have led to the virtual elimination of the disease.

Joseph F. Kennedy (HS, gynecology/obstetrics, 1965), whose pioneering research on in vitro fertilization led to the first “test tube” baby born in San Diego, died at his home in La Jolla, Calif., on Jan. 24, following a four-year battle with pancreatic cancer. He was 76.

Thomas Provost (faculty, dermatology, 1978-1996), former director of the Department of Dermatology, died on April 18, in Fairfax, Va., of pneumonia following a battle against colon cancer. He was 74. Widely respected not only in dermatology but internal medicine, rheumatology, and immunology, Provost often collaborated with rheumatologists on research. Perhaps his major contribution to the field was discovering the antibody marker that identified an important subset of patients with systemic lupus erythematosus (SLE), a mysterious autoimmune disease in which the body’s immune system mistakenly attacks healthy tissue, leading to chronic inflammation of the skin, joints or internal organs. He also made important contributions to defining the immunological features of such blistering autoimmune diseases as gestational pemphigoid, a rare, pregnancy-associated affliction that causes significant rashes that develop into blisters on women during and after pregnancy.

Luigi Giacometti (faculty, medicine, 1981), of Potomac, Md., former chief of the National Institutes of Health’s Center for Scientific Review, died on Oct. 9, 2011, of prostate cancer. He was 85.

Carol M. Meils (fellow, interventional cardiology, 1987-1991), of Milwaukee, Wis., died on April 1 following an eight-year battle with breast cancer. She was 59. Meils was the first female chief resident at Boston City Hospital and Hopkins’ first female fellow in interventional cardiology. She founded her own cardiology practice and later developed the cardiovascular program at All Saints Hospital in Racine, Wis.

Zenobia Ann Casey (HS, anesthesia, 1999-2001; faculty, anesthesiology and critical care medicine, 2002-2007), of Baltimore, died on Mar. 31. She was 47. She served as Director of Adult Remote Anesthesia and was a past coordinator of the Anesthesiology and Critical Care Medicine residency lecture series.

The School of Medicine also has received word of the following deaths:

**Sheldon Fox ’42**
on Mar. 29, 2012

**Virgil A. Place ’48**
on Mar. 14, 2012

**Sanford Chodosh ’52**
(Art as Applied to Medicine)
on Apr. 4, 2012

**Donald S. Daniel ’58**
on Feb. 5, 2012

**Lianne Krueger Sullivan ’99**
(Art as Applied to Medicine)
on Jan. 10, 2012

**Former Faculty, House Staff**

**Justin J. Wolfson** (fellow, radiology, 1949-50; HS, 1950-53)
on May 2, 2012

**John L. Pitts Jr.** (fellow, pediatric cardiology, 1953-55; assistant professor, pediatrics, early 1960s-89)
on Mar. 13, 2012

**Rosa Meyersburg Gryder** (fellow, ophthalmology, 1954-59)
on Feb. 28, 2012

**Raymond Markley Jr.** (part-time instructor in gynecology, 1954-1990)
on Mar. 4, 2012

**James B. Brooks** (HS, orthopedic surgery, 1957; part-time assistant professor, 1958-2007)
on March 18, 2012

**R. Gordon Long** (HS, neurosurgery, 1958-61; faculty, 1961-64)
on April 6, 2012

**Mamdouh M. Younes** (fellow, gynecology/obstetrics, 1958-59; HS, 1959-61)
on Dec. 12, 2011

**Charles A. Stump** (HS, obstetrics, 1959)
on Dec. 25, 2011

**Onkar N. Sharma** (fellow, pediatric neonatology, 1969-70)
on Feb. 10, 2012

**Brent F.G. Treiger** (fellow, urology, 1986-90; chief resident, 1990-91)
on Nov. 14, 2011
Alumni

Where A Gift Took Flight

All it took was a single look for Stephen F. Wetherill, A&S ’68, Med ’71, and his wife, Paula R. Wetherill, to make their decision. In 2008, the Wetherills had traveled from their home in Wilmington, Delaware, for a “hard hat” tour of the Anne and Mike Armstrong Medical Education Building, then under construction. Climbing the steps in the main lobby to the second floor, the couple gazed up at the soaring atrium and at the spacious area surrounding them.

“When we encountered this wonderful space, Paula and I instantly saw it as a focal point for the student body,” recalls Steve Wetherill. “The open feeling of taking flight there was a perfect match with the spirit of Paula’s aunt. We knew we had the answer for what we wanted to do.”

Paula’s aunt was Jewel Hart Coombe, a nurse who had spent her entire career in the military, first in the U.S. Army Nurse Corps and later as a Major in the Air Force Reserve. During her years in the Army, Coombe had travelled around the globe on various posts, including a stint on the front lines in Vietnam from 1966 to 1967 while serving with the 12th Evacuation Hospital.

In her later years, Coombe, who had no children and whose husband predeceased her, directed that most of her estate be left to a charity of her niece’s choice. “Although I was honored, I was at first overwhelmed by the responsibility,” says Paula Wetherill, who became the executor in 2007. “I wanted my aunt’s estate to go to one organization where it could create the greatest impact, so we could say, ‘Look at what we were able to do with my aunt’s gift.’” While in the throes of settling the estate in California, Paula shared her concerns with her husband. His response was immediate, “Why not give it to Hopkins?”

The suggestion made sense. The Wetherills already had a philanthropic relationship with the School of Medicine, thanks to generous gifts to the School of Medicine Annual Giving Scholarship Fund over the years. A flurry of conversations and visits ensued between the couple and the school’s development staff, culminating in that fateful visit to the new Armstrong Medical Education Building. “It was fortunate that we had sufficient funds to underwrite the atrium and to establish a named scholarship,” says Steve Wetherill. “We gained the best of both worlds, supporting medical students and the facility that houses technologically advanced classrooms, a first-class gross anatomy lab, and open spaces for learning and collaboration.”

Xuan “Tashin” Le-nguyen ’12, whose undergraduate studies at Yale focused on molecular, cellular, and developmental biology, was the 2011-12 recipient of the Jewel Hart Coombe/Stephen F. and Paula R. Wetherill Scholarship. “Receiving this scholarship allowed me to concentrate more fully on my studies and not have to work part time, which can be a real challenge,” says Le-Nguyen, who foresees a career that includes teaching, research, and a clinical practice in ophthalmology. “It has been a great help—I can’t tell you how grateful I am for such a wonderful opportunity.”

In the Armstrong Building, on a wall in the bustling student commons area, is a plaque dedicating the area to Jewel Hart Coombe. “It’s a very emotional experience for me to visit the Armstrong Building and see that plaque,” says Paula Wetherill. “It’s kind of like visiting her. And it’s so wonderful to witness the tangible outcomes of this gift and to get to know our scholarship recipients. I feel like I’m now a part of Hopkins, like Steve.”

Her husband agrees. “When you’re given a chance like I was, you want to give back, especially to a great institution like Hopkins,” he says. “This was the right gift at the right time for the right purpose—and named for the right person. We found the most fitting tribute for Jewel.”

To learn more about the ways you can make a named gift to The Johns Hopkins University School of Medicine, please contact the School of Medicine Development and Alumni Relations Office at 410-516-0776 or jhmalumni@jhmi.edu. David Beaudouin

Stephen Wetherill Honored with ACP Award

In recognition of his “abiding commitment to excellence in medical care,” Stephen Wetherill recently was presented with the 2012 Laureate Award from the Delaware Chapter of the American College of Physicians (ACP) at their Annual Scientific Meeting. In honoring Wetherill, John H. O’Neill, Jr., DO, FACP, Governor of the ACP Delaware Chapter, noted, “Dr. Wetherill is a long-standing and loyal supporter of the College, has rendered distinguished service to the Chapter, and has upheld the high ideals and professional standards for which the College is known.”
Dusk was just settling in over Baltimore on October 1, 1949, the evening I first viewed the Johns Hopkins Hospital. An hour earlier my two new roommates, Bob Welch and Tom Lang-fitt, and I, had checked into our second-floor rooms in the row house at 726 North Broadway. Fresh from college and feeling fortunate to have been accepted to Hopkins Medical School, we'd set out to explore the neighborhood.

We found sustenance just down the street at a well-kept Greek restaurant called Gounari’s. Then, continuing our stroll, we walked southward along Broadway, crossing Monument Street. And there, taking up the east side of the whole next block, loomed the elongated mass that was the hospital. None of us had seen this icon of American medicine before, but in the increasing darkness of evening, my own silent appraisal of its shaded Victorian bulk and ragged red brick outline was one of disappointment and not a little apprehension. I suppose I had expected a brighter and more modern place. This dark, looming structure with its untidy silhouette did not seem to support its reputation.

There were few people on the streets at that hour, I remember, but approaching us was an elderly couple leaning on each other for support. They were poorly dressed, smallish in stature, and unsteady. The man had a white blood-stained bandage wrapped over his head. The two of them had been praying together in a church a few blocks away, they told us, when a gang of youths had entered, struck him on the head, snatched the woman’s purse, and fled. Now, with a handkerchief over the man’s bleeding wound, they were looking for the hospital emergency room. We quickly searched it out for them and led them inside, where they were promptly attended to. I remember thinking this was not a good omen for the future. The scene was too much like Dickens to contemplate spending the next four years of my life here.

I smile now when I think back on that day 63 years ago. Little could I conjure that my medical school experiences would shape the rest of my life and that the elongated outline of the Johns Hopkins Hospital would become for me a kind of mental mecca. Only later would it dawn on me that the hospital stood exactly where it belonged in the city, at a place where it could do the most good for the people who needed it. The scene was too much like Dickens to contemplate spending the next four years of my life here.

In those years, the hospital’s main entrance, with its classic lobby and dramatic 10-foot marble statue of Christ, was located on Broadway. A linear wing running east along Monument Street housed semiprivate and indigent medical and surgical beds, the obstetrical and gynecological wards, classrooms, and outpatient clinics. By nature of its reputation, Hopkins had attracted faculty of outstanding repute and capabilities, each with a particular method of teaching and incidental eccentricities. I soon came to realize that it was the excellence of this faculty that gave the hospital its honored place in medicine.

Our introductory lecture to anatomy was given by Dr. Alan Grafflin, one of the most erudite speakers to face any unsophisticated entering class. He let it be known forthwith that he did not suffer slackers gladly. I still remember his declaration that “you will not be spoon-fed at Hopkins. You’ll have guides but they’ll just tell you where to dig. Only by digging hard will you learn—and remember to dig deeply! For God’s sake, be a doctor. Don’t be a jerk!”

Another professor who remains unforgettable is the pathologist Dr. Arnold Rich. Although gravid, detached, and soft-spoken, he never raised his voice because he was used to having the last word about any unsolved illness or death. Dr. Rich used the Socratic
method of lecturing and it was unnerving to be called upon to stand and answer a question such as “Dr. Herman, what is life?” In discussing why a patient had died he always selected the most intricate cases. It was said of him that he could see past life into death and vice versa.

Exchanges between Dr. Rich and our renowned professor of medicine Dr. A. McGehee Harvey as to the nature and cause of death of undiagnosed patients took place weekly at the Clinical Pathological Conferences. Looked upon as medical jousting events, these CPCs were famous throughout the city and filled the hospital lecture hall. For us they were the high point of the medical week.

Dr. Harvey, of serious mien and a bit forbidding, seemed to know everything. With his diagnostic acumen and legendary perception of disease processes, he became for many of us a kind of metaphor for medicine itself.

At length, our class of 75 students—70 men, five women—began to feel like a family. Meanwhile, the hospital became some kind of home. As we learned within this framework, we also experienced some dramatic moments. In our second year, when we had advanced to animal surgery and anesthesiology, Dr. Robert Welch, a towering figure, was so robust and healthy he felt certain the inhalation of ether couldn’t knock him out. To test his theory, Tom Langfitt and I took an ether cone from animal surgery and challenged him to let us prove it. Standing in Dr. Welch’s room we placed the ether cone over his nose and mouth, and in about two minutes he collapsed unconscious on the floor. Because of his size, we had great trouble moving him out to give him artificial respiration. Fortunately, he was soon on his feet, with his brain clearly unharmed. Even today he is an associate professor emeritus of ophthalmology at Hopkins and a noted retinal specialist.

In our fourth year we were admitted to the wards, and after that, we almost never left the hospital. Under the tutelage of a distinguished group of Baltimore doctors who were well aware of their status in holding admitting privileges to Hopkins, we were now allowed to participate in caring for their private patients. With three or four of us assigned to each, these physicians watched over our shoulders in daily rounds as they showed us which clinical signs to look for in making proper diagnoses and managing patients. We learned to draw blood and perform daily physical exams, urinanalyses, EKGs, stool exams, and blood counts. And occasionally to our delight, we made unexpected diagnoses. Our days and nights were full.

And still we found time for humor. The high point for revelry took place at the end of each year when the fraternity known as the Pithotomy Club staged an irreverent satire parodying faculty foibles. This production of repartee and song got fairly raunchy at times and could produce unfortunate results. On one occasion, after a flowery introduction purporting to portray one of the distinguished and flashier surgeons, the curtains parted and standing on stage in full form was the rear end of a donkey. We all found this enormously funny, but the professor himself, who took himself quite seriously, failed to see the humor. He bellowed, rose from his seat in the front row and stormed out, never to return.

None of this outrageous behavior could have happened, of course, without the familiarity and respect we developed for our professors, many of whom were world famous for medical discoveries and innovations in treating disease. Day by day, along the bustling corridors of the hospital, in its ORs, lecture halls, and classrooms, we felt the uplifting energy and wisdom of those teachers. In the end, so strong were the ties I formed to the Johns Hopkins Hospital that they remained unbroken until my retirement. During 40 years of practice as a Baltimore internist, I myself became one of those community physicians who looked over Hopkins medical students’ shoulders as they learned. To have been part of that family and this place for so long was a gift.

E. Hunter Wilson practiced internal medicine in Baltimore for 40 years. He has written two novels: In My Father’s House (Johns Hopkins Press, 1989), and The Gemini Mutation (I. Universe Press, 2008).
A New Chapter

After a decade of reflection, it’s time to move on.

BY DANIEL MUNOZ, MD ’04

This column was born about 10 years ago.

I was a second-year med student in the infancy of my clinical training. Still on the classroom side of the mostly mysterious world of patient care, I was filled with equal allotments of wonder and naiveté about the chance to be a bedside doctor. And, like many of my student colleagues, I embraced any opportunity to witness medicine firsthand, no matter how peripheral (or frankly, irrelevant) my involvement. The reality is that after years of lectures, homework, standardized tests, and final exams in windowless classrooms, the thirst for genuine clinical experiences is, at a very basic level, a thirst for some version of humanity. Virtually any dose will do. On a wintry afternoon during that second year of medical school, my classmate Brian and I ingested a powerful dose, when we witnessed a patient die in the intensive care unit.

So, shortly after 11 pm that night in 2002, from the kitchen table in my Charles Village apartment, I sat down and crafted an email to my buddy in London. Email was still a medium through which to share my training experiences and humbled my own personal learning curve. I have considerably more gray hair and an ounce or two more of wisdom—sufficient wisdom to recognize the enormity of medical learning that still awaits me.

Since then, I have had the regular chance to share a story with you, the readers. I hope that this page has provided you with even a fraction of the meaning that it has provided me. So much happens to a patient in the span of just a day in the hospital or in the clinic. So much happens to a medical student/resident/fellow in the span of a day. There are moments in any day that might inspire you, moments that might anger you, and moments that simply make you chuckle. This column has challenged me to do two fundamental things: 1) to first identify those reactions of inspiration, anger, or humor, and, perhaps more importantly, 2) to then reflect on their meaning. That process has evolved into an essential aspect of my medical training and (attempts at) maturation.

I am immeasurably indebted to the two editors for whom I have written, Edith Nichols and Sue De Pasquale. They both established new dictionary definitions of patience, all while I routinely redefined the concept of the “deadline.” And they each did something considerably more valuable. They provided me with a blank canvas. They never assigned a specific topic. I have felt a freedom that has been motivating and, at times, thoroughly confusing. Their only mandate was both simple and implicit: Make sure you write more from your heart than from your brain. When at times my brain exerted more keystroke control than my heart, both had their ways of offering criticism in seemingly complimentary fashion.

Ten years and a few dozen columns later, I now close the chapter on this space, grateful for a medium through which to share my training experiences and humbled by the opportunity to shed light on my own personal learning curve. I have considerably more gray hair and an ounce or two more of wisdom—sufficient wisdom to recognize the enormity of medical learning that still awaits me.

There is one thing that I perhaps most appreciate about this adventure in medicine. Despite the hours, despite the occasional frustrations, and despite the sacrifices required of a durable commitment to the practice of medicine, there are still those regularly occurring moments, made possible by the patients I meet, which trigger that familiar desire to tell a story.  

After two years of a clinical cardiology fellowship at Johns Hopkins and a research fellowship at the Duke Clinical Research Institute, Dan Munoz is currently completing a final year of training and looks forward to a career in academic medicine.

I HAVE CONSIDERABLY MORE GRAY HAIR AND AN OUNCE OR TWO MORE OF WISDOM—SUFFICIENT WISDOM TO RECOGNIZE THE ENORMITY OF MEDICAL LEARNING THAT STILL AWAITS ME.
True to the Core

Toward honoring the traditions that have flourished here—and helping them expand.

BY DEAN/CEO PAUL B. ROTHMAN

When you start as a new leader at an institution, the possibilities are vast and the concerns can be many. When you walk into a place that is as steeped in tradition as Johns Hopkins is, however, there is an added, powerful layer of meaning, one that I find profoundly important.

Since my arrival here in July, and in the six months leading up to my first day on the job, I’ve had the opportunity to read and learn more about the history of our school of medicine, Johns Hopkins, and its many leaders. What I have found, I readily admit, is both humbling and daunting. It’s not only that I follow in the footsteps of Ed Miller, whose great leadership has allowed me to come in at a time when Hopkins is thriving; it’s also that I stand on the foundation forged by so many Hopkins legends, the architects of modern medicine. Osler, Halsted, Kelly, and Welch. Harvey Cushing, Vivien Thomas, Helen Taussig, Alfred Blalock, Mary Elizabeth Garrett, Victor McKusick. The list is as staggering as it is long. It is my aim to honor the traditions that have flourished here for more than a century, and in time, I hope to help them grow and expand. It should go without saying how proud I am to be a part of Johns Hopkins and this legacy of greatness in medicine.

I must also offer my sincere thanks to Ed Miller for everything he has done to benefit the health of our patients and our institution, and for so masterfully setting us up for future success. In the months leading up to my official start, I was fortunate to spend time on campus almost once a week. Dr. Miller was exceptionally generous to me with his time and his advice, for which I remain very grateful. I know that we remain poised to attract, educate, and train the very best in the field of medicine in large part because of his guidance.

With that said, I want to welcome our incoming class of medical school students. We are starting at roughly the same time, and so we will go on our journey together. The Genes to Society curriculum is cutting edge, and you will feel the full benefits of its approach to how we translate science and how we care for our patients.

The range of learners that we have on this campus is remarkable, and I’m equally excited to be starting with all of our grad and master’s students, PhDs, postdocs, fellows, residents, and those in our Art as Applied to Medicine program. They represent the world’s next generation of great scientists, physicians, researchers, and leaders. I am personally dedicated to fostering their success.

As the father of three, with two children currently in college, I am sensitive to the rising costs of higher education, and its impact on graduates and their families. The New York Times has reported that more than a third of medical school graduates in the United States leave school owing $200,000 in student loans. At Johns Hopkins School of Medicine, the average debt is much lower—close to $100,000. Of course, that’s still a lot of money. One of our major fundraising goals is to increase our endowment for scholarship funds, so that new doctors can leave Johns Hopkins as close to being debt-free as possible.

On this issue, and the countless other issues I will embrace in the months and years ahead, I will strive to gather ideas and advice from people across Johns Hopkins Medicine. One of the things I found during my years as Dean of University of Iowa’s Carver College of Medicine was that it can be an isolating position. So I really try to get out there and talk to faculty and students and staff and get their input. I have lunch with assistant professors once a month to hear what’s happening. I have dinner with students once a month. I like to get into the hospital and walk the floors a couple of times a week, and stroll through the research buildings. Whenever possible, I try to have meetings in the offices of faculty and directors so that I can meet and talk to people. I intend to continue this strategy here at Johns Hopkins.

With all of these things in mind, I offer you this promise: I will strive at every turn to ensure that our school of medicine remains the best in the world. No matter the challenges that we will face due to shifts in the health care environment, our core nature will never change.

We are The Johns Hopkins University School of Medicine, and we will do exactly as our founders and luminaries have done before us. We will continue to pass down within our walls the pinnacle of medical knowledge.
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<td>7.8%</td>
</tr>
<tr>
<td>80</td>
<td>6.8%</td>
</tr>
<tr>
<td>75</td>
<td>5.8%</td>
</tr>
<tr>
<td>70</td>
<td>5.1%</td>
</tr>
<tr>
<td>65</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Calculate your benefits at giving.jhu.edu/giftplanning

To request a personalized illustration or learn more, please contact:

Johns Hopkins Office of Gift Planning
410-516-7954 or 800-548-1268
giftplanning@jhu.edu
giving.jhu.edu/giftplanning

...and eat it too.