Alpha Omega Alpha Honor Medical Society

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525 Middlefield Road, Suite 130
Menlo Park, California 94025

Telephone: (650) 329-0291
Fax: (650) 329-1618
E-mail: postmaster@alphaomegaalpha.org

www.alphaomegaalpha.org

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Editorial

The dreaded burnout

Edward D. Harris, Jr., MD

Two words: poverty and depression. They are personal disasters. Poverty is easier to recognize and treat than is depression. Recall the agonizing account of George Hurstwood in Theodore Dreiser’s novel, Sister Carrie, whose descent from manager to tramp defines poverty with incisive detail. Alleviating poverty usually entails providing resources, such as money. Depression, in contrast, is a black hole separating one from life. John le Carré, in A Most Wanted Man, describes the feelings of a man standing in the Ernst Barlach museum, viewing sculptures of mythic figures not easy to view: “each figure was as alone as he was, and . . . each was communicating something; but nobody was listening, each was searching for a solace that was not available.” That is depression.

Do you remember your years as a medical student? Oh sure, there was stress—the oral exam in biochemistry, falling asleep trying to really understand renal clearance, suffering the arrogance of residents. But balancing and trumping those traumatic times were the camaraderie of your classmates, the pizza and beer that appeared late Friday afternoons, and the glimmering crescendo of certainty that when these trials were behind you, a career in the most respected of professions would be yours. There was idealism, too, although cynicism eroded away much of what you had brought to medical school.

Is it not confounding and perplexing, then, to read that among medical students, depression occurs in fifteen to thirty percent, three times higher than the rate of depression in either the general population or in age-matched peers? What is medical education doing wrong? Or does this imply a link of a depressive trait to aptitude for science and a caring nature?

Heather Finlay-Morreale was, as you were, in a bedeviled state. Her essay was published in the Winter 2007 AΩA Helen H. Glaser Student Essay Competition. Her essay was titled “And then there were eight,” for which she received second prize in the 2007 AΩA Helen H. Glaser Student Essay Competition. Her essay was published in the Winter 2008 issue (pp. 4–7). Her review of the literature found that only forty-two percent of medical students with suicidal ideation asked for help. Reasons for not seeking help included fears of documentation on academic records, of unwanted intervention, and of lack of confidentiality. She found encouragement in recent efforts, including a consensus statement published in JAMA, to set up systems that recommend specific interventions to reduce physician suicide.1 These steps to cure, however, do not address causality. For Heather, the question remains: Why? Why? Why?

What causes the despair that can lead to full depression and suicidal ideation or suicide among medical students? One study published in the Annals of Internal Medicine in 2008 by Liselotte Dyrbe and her colleagues attempts to relate the prevalence of suicidal ideation in medical students and its relationship to burnout, demographic characteristics, and quality of life.2 Using the evidence that suicidal ideation is a direct precursor of a suicide attempt, they found a direct relationship between suicidality and burnout, and a strong dose-response relationship between burnout and suicidal ideation during the subsequent year.

But what is “burnout”? The investigators defined the domains of burnout as:

- emotional exhaustion
- depersonalization
- low sense of personal accomplishment.

Within the group of 370 students meeting the criteria for burnout, twenty-seven percent were no longer burned out at one year follow-up. They had recovered! This group of “recovers” were less likely than students with “chronic burnout” to report suicidal ideation in the subsequent year (7.2% versus 18.2%). Burnout among medical students, then, can be reversible! The authors make logical recommendations:

1. Require medical schools to have systems in place to identify currently suicidal students
2. Identify students with burnout—those at high risk for suicidal ideation
3. Implement “student support and wellness programs [to] optimize the learning environment, the organization of clinical rotations, and the diversity of clinical experiences.”2p340

Could AΩA chapters help with these interventions? On one hand, our students are not equipped to help with therapy of students with suicidal ideation, nor can we expect AΩA to have a significant impact upon curricular reform. What AΩA can do is to organize mentoring programs for fellow students. Mentoring is contact of one to another that is not teaching, not therapy, not role modeling. It is taking the hand of and guiding someone through the treacherous waters that the mentor has already navigated successfully. AΩA is the national honor medical society recognizing scholarly achievement, but providing service to others can be a greater reward than the AΩA key and certificate.

References

In This Issue

Articles

Judah Folkman, MD (1933–2008)
David G. Nathan, MD, and Michael A. Gimbrone, MD

Be still, my (irregularly) beating heart
Mark D. Lo, MD

Samuel Johnson and I
Leon Morgenstern, MD, FACS

Departments

Editorial
The dreaded burnout
Edward D. Harris, Jr., MD

The physician at the movies
Peter E. Dans, MD
Stagecoach
The Horse Soldiers

Reviews and reflections
When the Air Hits Your Brain: Tales from Neurosurgery
Reviewed by Michael Egnor, MD
Patient Listening: A Doctor’s Guide
Reviewed by Frederic W. Platt, MD
Henderson’s Equation
Reviewed by Jay Baruch, MD

Letters

AΩA News

2008 Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Awards

National and chapter news
Winners of the 2008 Pharos Editor’s Prize
Announcing the 2009 Pharos Editor’s Prize
Instructions for Pharos authors
Leaders in American Medicine

Alpha Omega Alpha members elected in 2007/2008
Isabella
James Reilly, MD

Maternal mortality and world history: The case of Princess Charlotte of Wales
Roy Macbeth Pitkin, MD

Seishu Hanaoka, surgery, and anesthesia in feudal Japan
Don K. Nakayama, MD

POETRY

9 Extracorporeal Membrane Oxygenation (ECMO)
Sarah Cross, MD

13 Do Old Men Dream?
Eric Pfeiffer, MD

21 Nursing Home Villanelle
Bonnie Salomon, MD

41 Bridge
Radhika Sreeraman

58 What Kind of Guy?
Richard Bronson, MD

59 Shut Up
Melvyn H. Schreiber, MD

63 Welcome to AOA
Daniel V. Schidlow, MD

72 Palliatives
Virginia Aronson

Inside Back Cover
My Eye Doctor
Jenna Le

Back Cover
Breaking Good News
Dean Gianakos, MD

On the cover
Illustration of a removal of a breast tumor by Seishu Hanaoka from Geka Kihai (1851) a treatise by one of Hanaoka’s students, Keishu Kamata.
Image courtesy of Wellcome Images, London.
See page 35
The sudden catastrophe that stopped the heart of Judah Folkman on January 14, 2008, robbed his family of a loving husband, father, and grandfather, and prematurely terminated the career of one of the world’s most productive physician-scientists and leaders in modern academic medicine.

Moses Judah Folkman was indeed a remarkable man. Gifted with a keen intellect, engaging personality, and genuine humanity, his creativity and energy were seemingly boundless. Brought up in a highly religious Jewish family, he was a source of intellectual ferment from early childhood. Like the elephant child in Kipling’s Just So Stories, Judah Folkman had “satiated curiosity.” He combined his boundless determination to find answers to difficult questions with a devotion to the betterment of the human condition. The result was his early decision to become a physician and surgeon.

At Ohio State University, Folkman came to the attention of Dr. Robert M. Zollinger, Sr., a pioneering surgeon who became his early mentor. That relationship profoundly influenced Folkman’s career, further forging his nascent interest in surgery and inspiring him to take his medical education at Harvard, Zollinger’s alma mater. That decision conferred a huge benefit on Harvard Medical School, Boston Children’s Hospital, and the entire field of cancer research.

Folkman was a precocious medical student who immediately caught the eye of Dr. Robert Gross, the master pediatric surgeon at Children’s Hospital and a man armed with a sure taste for talent. Gross invited him into his dog surgery laboratory where incredibly daring and creative new surgical procedures to correct congenital heart defects were being devised. Folkman thrived in that environment, graduated magna cum laude from Harvard Medical School in the class of 1957 (and was elected to AΩA in the same year), and went on to become an intern and resident in Surgery at the Massachusetts General Hospital. The surgical service at MGH was then a fabled place. It was dominated by surgeons of the quality of Richard and William Sweet, Oliver Cope, Edward Churchill, Robert Linton, Claude Welch, Arthur Allen, Marshall Bartlett, John Burke, and many others. In that rarified environment, Folkman performed exceptionally well, but in 1960, after his senior residency, he was forced to
interrupt his training to answer the call to compulsory military service.

Before he took up his Navy commission, Folkman made the smartest decision of his entire life. He proposed to Paula Prial, a Wellesley graduate with a beautiful character, visage, and voice. Paula was accustomed to the medical life because she was the daughter of a physician in Fall River, Massachusetts. They were married for less than a month before they loaded a small trailer with their possessions and headed for basic training and then Folkman’s assignment at the National Naval Medical Center in Bethesda.

The salutary role of the major military hospitals and the National Institutes of Health intramural program in the development of modern academic medicine cannot be overstated. The Korean and Vietnam wars had many unintended consequences, most of them very negative, but the “doctor draft” that gave the opportunity for some of the very best young physicians and surgeons to be awarded Public Health Service commissions and work in those excellent and well equipped institutions provided a level of scientific training that for three decades fostered the careers of a new breed of physician-scientists. Many of the advances in academic medicine in the United States are owed to that draft.

Indeed, Folkman’s posting to the National Naval Medical Center at Bethesda laid the foundation of his future career. There he joined a cadre of like-minded young physician-scientists and began initial studies of the behavior of tumor cells outside of the body, in the novel context of isolated perfused organs. Along the way, he investigated the semipermeable characteristics of silastic tubing, an inquiry that directly led to an efficient contraceptive device for use in the underdeveloped world.

Upon completion of military service, Folkman returned to the Massachusetts General Hospital to serve as chief resident in Surgery, an exalted post. Realizing that he would have to leave the womb of the MGH to achieve independence, he then took his first faculty position as an assistant professor of Surgery on the Harvard Surgical Service at the then Boston City Hospital. There, in 1965, in a tiny laboratory in the basement of the Sears Surgical Building, he began in earnest his career-long study of tumor blood vessels that would ultimately open up a new field in the biomedical sciences—angiogenesis—and, in the process, permanently transform our thinking about the biology of cancer and other diseases, and point the way to novel strategies for their treatment. Intrigued by the apparent abundance of blood vessels he encountered during his attempts at surgical resection of tumors in the operating room, he became fascinated by the basic question of how tumor blood vessels grow, a problem to which he productively devote his creative energies for the rest of his life.

Though Folkman was content with his clinical and research activities at Boston City Hospital, a seismic event was about to occur across town at the Children’s Hospital. Robert Gross, Folkman’s medical student mentor, decided to retire, and an ad hoc committee to select a successor to that giant of pediatric surgery was established. To the astonishment of many, the committee, vociferously urged on by cancer researcher Sidney Farber, selected Judah Folkman. After a six-month special fellowship in pediatric surgery under the watchful eye of Dr. C. Everett Koop at the Children’s Hospital of Philadelphia, Folkman returned to the Boston Children’s Hospital to assume his new leadership position as its surgeon-in-chief in 1968 at the remarkably young age of thirty-five.

Soon after the wunderkind arrived, those who were amazed at the selection began to understand its wisdom. Folkman was a competent and careful surgeon, but his clinical forte was differential diagnosis and, above all, teaching. Crowds of students and residents surrounded him on rounds because he could combine modern biology with clinical practice in a fashion equaled by none. His choice of descriptive words was unique. He invented the term “chronophage” on one of those rounds to describe administrators and rule makers who find countless ways to consume the time of clinical investigators and rob them of the moments they need with their patients and in the lab. His devotion to patients and families was exemplary, and his respect for the opinions of colleagues palpable. Despite the considerable burden of his new leadership role, he remained devoted to his mission as a physician-scientist and redoubled his research efforts in the laboratory focusing on the phenomenon of tumor blood vessel growth.

But the early going on the research front was challenging. Folkman’s initial formulation of the tumor angiogenesis hypothesis consisted of three basic components:

1. Tumor growth per se is critically dependent upon the ingrowth of newly formed blood vessels from surrounding
host tissues.

2. This is an active, not a passive process, mediated by the production of tumor angiogenic factors (TAF’s) by the malignant cancer cells.

3. The inhibition of tumor angiogenesis—antiangiogenesis—could arrest the progressive growth of tumors, representing a novel strategy for cancer therapy.

This hypothesis, first published in the New England Journal of Medicine in 1971, and now widely considered “transformative,” “brilliant,” “visionary,” and “prescient,” was initially met with considerable criticism and outright skepticism by the cancer research establishment. Indeed, the apparent hypervascularity of tumors had long been attributed to a reactive process of inflammation in the surrounding tissues, and the primary target of “curative” therapeutic approaches—toxic chemotherapies, ablation by radiation, and surgical excision—was the malignant cancer cell population, not the benign vasculature. Angiogenesis as a process was thought to be limited to the formation of new blood vessels during the development of the organs and tissues of the embryo, and was not believed to occur to any appreciable extent in the adult. Furthermore, no specific growth factors with activities directed towards the cellular components of blood vessels had been identified.

Trained as a surgeon, but a physician-scientist by inclination, Folkman actually lacked any formal expertise in biochemistry or cell biology. Nonetheless, he had an uncanny aptitude for asking penetrating questions and seeking their answers in unlikely places. He progressively attracted Harvard Medical School students, postdoctoral fellows, and visiting scientists to work in his lab, and systematically began to build the case for the tumor angiogenesis hypothesis. A key experiment was performed in the rabbit eye, demonstrating that tiny tumor spheroids implanted in the avascular, fluid-filled anterior chamber would remain dormant for extended periods of time, but then could grow exponentially when allowed to contact the surface of the iris, from which they elicited the ingrowth of new capillaries. Published with his first postdoctoral research fellow Michael Gimbrone in The Journal of Experimental Medicine in 1972, this work provided the proof-of-principle that the malignant growth behavior of solid tumors was indeed dependent upon angiogenesis.

The Folkman laboratory then went on to establish a number of very creative bioassays for observing and quantifying the angiogenic process: the corneal micropocket neovascularization assay, the chick egg choioallantoic membrane assay (with Robert Auerbach), and ultimately the culture of capillary endothelial cells in vitro (with Bruce Zetter and Christian Haudenschild). Each of these advances brought new insights into the biology of the angiogenic process, as well as the challenge of bioassaying putative pro- and antiangiogenic factors. Moving from initial experiments with crude tumor extracts to the isolation and purification (collaboratively with Yuen Shing and Michael Klagsbrun in 1983) of the first tumor-cell-derived angiogenic stimulator, basic fibroblast growth factor (bFGF), the Folkman group established the second tenet of the original tumor angiogenesis hypothesis. In parallel fashion, his team described the existence of a variety of naturally occurring substances with antiangiogenic activities, such as the fungal antibiotic fumagillin (with Donald Ingber), angiostatic steroids (with Robert D’Amato), and endogenous proteins and protein fragments, such as angiostatin and endostatin (with Michael O’Reilly and others). Each of these served to provide further insights into the complex biological balance that controls the angiogenic process in cancers and other nonmalignant, angiogenic-dependent pathologies such as ocular neovascularization, hemangiomas and other vascular malformations, psoriasis, and atherosclerosis, as well as normal embryonic development. Indeed, several of these putative angiogenesis inhibitors have shown efficacy in animal models, and a number have found their way into human clinical trials in the United States and abroad. Perhaps the best studied example of a selective antiangiogenic therapeutic is the anti-VEGF antibody, bevacizumab (Avastin). Rationally designed to neutralize one of the first angiogenic factors, vascular endothelial growth factor,* Avastin and related agents have found application in the therapy of certain cancers, and have been shown to be highly effective in the treatment of wet macular degeneration, the most frequent cause of progressive vision loss and blindness in the Western world.

As these studies unfolded, Folkman established a group of creative and committed young colleagues, including Bruce Zetter, Robert Langer, Henry Brem, Michael Klagsbrun, Patricia D’Amore, Michael O’Reilly, Anthony Adams, Robert D’Amato, and Marsha Moses, each of whom has gone on to define various dimensions of the field of angiogenesis research at the basic and translational levels. Some remain associated with the Children’s Hospital Boston, while others have created a network of angiogenesis research laboratories.

* VEGF was originally discovered by the laboratory of Harold Dvorak as a “vascular permeability factor”—VPF—and subsequently cloned and characterized by Napoleone Ferrara at Genetech.
worldwide. Early in this process, Folkman enlisted the collaboration of his close friend and colleague, the late Ramzi Cotran, who was appointed chairman of the Department of Pathology at the adjacent Peter Bent Brigham (now the Brigham and Women's) Hospital at approximately the same time Folkman came to the Boston Children's Hospital. Not only did they collaborate scientifically (Folkman often referring to his Pathology colleague as “the conscience of the surgeon”), but together they established the Harvard Medical Area Vascular Biology Seminar Series, a weekly gathering that has for more than thirty years been an open forum drawing students, young researchers, and emeritus professors alike. Up to the very week before his untimely death, Folkman sat in the front row, notebook in hand, and was among the first to ask a thought-provoking question of the speaker.

A much sought-after speaker himself at national and international meetings, Folkman's style was spell-binding. His enthusiasm was contagious and his self-deprecating humor a foil for the penetrating nature of his subject matter. Always sharing his latest insights (and often unpublished data), he viewed fellow workers in the field not as potential competitors but as potential collaborators in the quest for the correct answer. Open to the input of others, he often incorporated their criticisms into his working hypothesis. He had a remarkable influence on others. He was accessible to the most junior of students and senior peers alike, and even the briefest conversation—in an elevator, for example—left a positive impression. And, most importantly, his accessibility extended to patients and their families, to whom he remained a constant source of hope and encouragement.

In 1969, the terms “angiogenesis” and “endothelium” did not exist in the lexicon of the Medlars medical index. In 2007 alone there were more than ten thousand citations related to angiogenesis, endothelium, and vascular biology in the world’s medical literature. It is estimated that more than a thousand laboratories worldwide are currently engaged in angiogenesis-related research. Folkman’s seminal contributions were recognized by over one hundred national and international scientific prizes and more than a dozen honorary degrees. He was an elected member of the U.S. National Academy of Sciences, the Institute of Medicine of the National Academy of Sciences, the American Academy of Sciences, and the American Philosophical Society. In 2006 he received the Helen Keller Prize for Vision Research for his contributions to the cure of blindness—a wonderful byproduct of his lifelong quest to understanding and combat cancer.

Patients, colleagues, mentors, teachers, role models, friends—all who had the privilege of knowing Judah Folkman—have had their lives enriched in myriad ways. He will always be remembered as the father of angiogenesis, and, indeed, the godfather of a scientific generation that will continue to expand its boundaries and amplify its impact to the benefit of humankind.

Address correspondence to:
David G. Nathan, MD
President Emeritus Dana-Farber Cancer Institute
44 Binney Street D1644
Boston, Massachusetts 02115
E-mail: David_Nathan@dfci.harvard.edu

“Asking penetrating questions”
It is true that Judah Folkman had “an uncanny aptitude for asking penetrating questions and seeking their answers in unlikely places.” This aptitude was matched by his fascination with diverse phenomena in biopathology about which one would have thought he had no interest.

In 1969, Steven Krane and I, working at the MGH in Boston, hypothesized that rheumatoid synovium had characteristics of a locally invasive malignancy. Judah Folkman suggested that we implant pieces of this tissue (removed at synovectomy) into his unique culture system. Its design was that of inverting segments of sterile rat gut over glass rods, and constantly nourishing them by slow-moving tissue culture medium. Folkman could correlate the aggressiveness of colon cancers by the extent of invasion of the gut segments by explants. Sure enough, the synovial tissue invaded the gut serosa at a rate equal to that of cancer.

Edward D. Harris, Jr., MD
Editor
Learning to be a surgeon,
the senior resident, in his cowboy
boots and sea-foam scrubs, tries to explain ECMO
in his Texas Spanish, impatient for the interpreter,
in the neonatal intensive care unit.

Only a few days old, the solid red mound of liver,
had slipped up months ago in the dark.
See, said the surgeon, up in the apex
of the chest, her lung.
I could only see a grey-blue fleck,
like the still wing of the tiniest butterfly.

We push the liver back in place, lash
the diaphragm—would-be mighty muscle
of respiration—shut, and invade artery & vein to
stream oxygen into the blood
ourselves to buy time.

Her chest filled with blood, she is opened
again. Then I am allowed to sew
the wound closed, between two ribs
as soft as green twigs in spring,
perhaps because it was futile,
or perhaps small things heal well.

Sarah Cross, MD

Dr. Cross (ALJA, University of Chicago, 2007) is a resident in the
Department of Obstetrics, Gynecology & Reproductive Sciences at
Yale-New Haven Hospital. Her address is: 145 Willow Street #3, New
Haven, Connecticut 06511. E-mail: sarahcross@alum.swarthmore.edu.
Illustration by Erica Aitken
Be still, my (irregularly) beating heart

Mark D. Lo, MD
The author (ΑΩΑ, University of Vermont College of Medicine, 2005) is an instructor in pediatrics at the Duke-NUS Graduate School of Medicine in Singapore.

It was barely the end of my clerkship year. I had just driven home to visit my parents for the weekend during a call-free elective month in medical school. They were already going to bed, so I said goodnight to them before flipping open my laptop to check my e-mail.

Ka-chung. My heart suddenly accelerated, like I had just finished a run. It didn't slow down in the next five minutes, so I figured it was just some random adrenaline in my twenty-eight-year-old system, or maybe the coffee I had just drained. It would be fine after a good night's sleep. But I couldn't sleep more than four hours that night, and I woke with the weird heartbeat still there.

I puttered around the house, noticing that I didn't feel my normal energy level. No lightheadedness, but my breaths were rushed, even at rest. I'm sure it will go away in a little bit, I told myself as I threw myself into bed. I'm just tired, and I can sleep this off. After a short nap, there was no relief from my symptoms. I finally took my quickened pulse, and it felt "irregularly irregular," an unwelcome indicator of what my problem might be. Closing my eyes, I slipped on my stethoscope and heard the confirmatory heart sounds of an arrhythmia, probably atrial fibrillation.

"Damn," I said out loud. Afib isn't an immediately fatal disease, but certainly is serious, even for younger people. I had heard enough of these arrhythmias in older patients to recognize that I now needed a hospital visit. I knew just enough to know that I needed to start with an ECG, and the only place open during the weekend was the local hospital emergency department. I wrote my folks a note to tell them I would be in the ED, trying to use the most benign language I could think of. Stupidly, I then drove myself to the hospital, not realizing how risky that could be. I was secretly hoping that I would be wrong, that the ED would think I was a paranoid medical student and send me away with a lecture on not adding to the burgeoning costs of overcrowded EDs. And I was somehow fantasizing that I only needed an ECG, as my basic coverage student health insurance plan + emergency room visit = much poorer student. Maybe I could sneak off with just "the basics."

I had never been to the ED for anything more serious than a sprained ankle. Walking in, I felt slightly embarrassed as I spoke with the desk clerk.

"I don't think this is emergent or anything more serious than a sprained ankle. Walking in, I felt slightly embarrassed as I spoke with the desk clerk."

"I don't think this is emergent or anything, but, uh, I was wondering where I could get an ECG this time of day. Is there an after-hours clinic (read: cheaper)?"

She assured me that I had come to the right place, as it was the only ECG available. I explained the problem in the appropriate medical lingo.

"Palpitations? Shortness of breath without syncope? Fill out these forms and we'll see you right away!" she exclaimed. Three minutes later I was having a nurse confirm my irregular heartbeat and take my blood pressure, which was dramatically elevated. "White coat syndrome," she murmured. "Happens all the time." I say that to my hypertensive patients, too, I thought. And I'm usually the one wearing the white coat.

Ten minutes later, I was wearing a flimsy hospital gown for the first time in my life. It kept slipping off my shoulders. I had the ECG leads on, and the printout confirmed atrial fibrillation. "Nice pickup," said the nurse, but I was already running through the treatment options in my head.

I knew I wouldn't be leaving anytime soon, and the treatment might be more invasive than I wanted. Coming to the ED meant the full workup automatically, and I couldn't get away with my à la carte request. Labs were drawn, IVs were inserted, chest X-rays were taken. I was stunned at how painful the IV could be, jammed against a valve in my vein. I felt like a sham, as I squirmed in pain when the nurse tried to flush it. I was ashamed at my reaction to this ubiquitous procedure that I myself had subjected so many patients to. Suddenly I was cognizant of the fact that although
Be still, my (irregularly) beating heart

we medical students practiced inserting IVs on each other, we never stayed hooked up to them for very long, and no medicine ever passed through the lines.

A paper funnel was handed to me. “Urine sample!” chimed a different nurse. I was getting confused between the different people taking care of me, each with the greeting “I’m [insert different name] and I’ll be your nurse.” Why didn’t they ask me for the urine before I was hooked up to the IV? I grumbled. Giving the sample with IV lines and monitoring wires all tangled up, I suddenly appreciated the fact that it’s hard to move—much less undo a zipper—without free hands.

The patient in the bed next to me began moaning in pain, and I wondered what was wrong with her. Her moans turned into yelps of pain, and through the curtain I could hear her family trying to comfort her. They could also hear what my care providers were telling me about my newly diagnosed arrhythmia. Being roommates with somebody else pretty much obliterates any kind of privacy, I discovered.

Almost two hours went by as I waited for the cardiologist to come see me. I thought about how I always ended up making patients wait on me as well. The nurses started me on an IV medicine in an attempt to convert me back to my normal heart rhythm. I lay back on my pillow, watching the monitor as the medicine dripped in for an hour, praying to see P waves. It didn’t work—I still was in arrhythmia and I could feel it. Argh. I knew what was coming next.

On cue, the cardiologist came bustling in, looking every bit the professional one could hope for. I wondered if I looked like this when I saw patients as a student doctor—with me it was always partly competence and partly me convincing myself I really was competent. We chatted for a few minutes about my history and presentation, and how the medicine hadn’t worked. He then told me what I had been expecting, that cardioversion was the next option if I wanted to avoid staying overnight in the hospital.

Cardioversion is the process of passing a couple hundred joules of energy through the heart, effectively obliterating any irregular rhythm. It is then assumed that the natural pacemaking ability of the heart will take over and a regular heartbeat will be re-established. In essence, cardioversion is just like on TV when the medics break out the paddles and yell “Clear!” before delivering the electric shock to reboot the heart. Risks include the arrhythmia persisting even after the shock, or the heart stopping and not remembering to start beating again. The cardiologist wanted to sedate me and do this to me. In my head, I knew that this was the normal protocol and perfectly safe. In my heart of hearts (pun intended!) I thought this was nuts. I was now on the wrong end of a code situation.

It might have been the first time in my life that I truly had to trust doctors completely. In the end it came down to my unwillingness to be hospitalized and wait longer, with the potential of weeks of anticoagulation ahead. I made sure that I talked to my loved ones before going under sedation, and even drafted a quick living will. I wanted to clarify my future medical wishes should I be incapacitated, and from the corner of my eye I thought I saw the cardiologist roll his eyes. But if my brief foray into medicine taught me anything, it was that you never knew how things were going to turn out.

My eyes widened as they broke the plastic lock to the code cart. The oxygen mask went on, and they tore open the silver bag containing the adhesive paddles. The sticky gel was cold, and I felt a slight tingle as they pushed morphine and midazolam. The cardiologist switched on the defibrillator.


More midazolam.

“Nope, still here, I think I need some, uh, uh, m-more . . .”

My eyelids were closing of their own accord and the edges of my vision blurred. The last sounds I heard were the irregular beeping of the C-R monitor fading away . . .

Zap.

I awoke and immediately knew I was in sinus rhythm. I also immediately wished I had just chosen hospitalization. Since cardioversion, I’ve been cleared of any cardiovascular issues. It is thought that caffeine or the stress of medical school triggered an episode of lone atrial fibrillation. The experience of being a patient in the emergency room brought home the reality of what we do every day. I was struck again by our effect on our patients, and how very quickly even our own health can change. My many years of youthful invincibility were all taken away in a literal heart-beat, with no warning whatsoever. For the first time in my life I felt betrayed by my body, and for months afterwards I wondered if every tiny chest pain or tachycardia or quickened breath meant that something more serious was about to occur. I can still live my life happily in the moment, but in the back of my mind there is a shadow lurking. The shadow is the uncertainty of health, and understanding the tremendous speed with which illness may come.

As physicians, we do our best to safeguard our patients’ health, and to fight for them when the illness does come. Atul Gawande writes of the doctor’s profession, “We are for the moment the healthy few who live among the sick.”

My new insight to the experience of being both healthy and sick has convinced me once again that being a doctor is the most meaningful profession I could hope for. As long as we are still healthy few, ours is the privilege to help the sick.

Reference

1. Gawande A. Nine Thousand Sur


The author’s e-mail address is: mark.lo@duke-nus.edu.sg
He dreams of riding down a canopied highway on his monster Harley to the beach, the beach. A woman waits for him with food and drink. The Florida sun exploding in his head. Pelicans diving and diving. And skimmers skimming.

Eric Pfeiffer, MD

Dr. Pfeiffer (AΩA, Washington University in St. Louis, 1960) is a member of the editorial board of *The Pharos*. His address is 3120 W. Hawthorne Road, Tampa, Florida 33611. E-mail: epfeiffer@health.usf.edu.

Illustration by Jim M’Guinness.
Isabella

James Reilly, MD
The author (AΩA, University of Pennsylvania, 1972) is director of Surgery at the Kings County Hospital Center in Brooklyn, New York, and Professor of Clinical Surgery at the SUNY Downstate College of Medicine.

I pushed Isabella Montez’s gurney into the operating room at first light. She shivered. “I’m cold.”

“We’ll give you a warm sheet in a minute,” I replied.

She sees no reassuring smiles, no bright teeth here; we’re all face-covered with paper masks and drug company-logoed caps. Voice sounds are more important now. We talk constantly.

“Careful, the table is narrow. We’ll put a seat belt on you so you don’t fall. This will feel cold and sticky.” The grounding pad slaps onto her bared thigh skin.

Quickly now, she begins her transformation from person to inanimate object, as we gradually cease talking to her and begin talking about her.

“This is Isabella Montez, medical record number 34237. Date of birth is January 11, 1952. We’re removing a pelvic tumor.”

Electronic boxes with flashing lights and digital screens decorate the room, strange sculptures stacked on shelves. The room is harshly lit. Isabella seems deathly pale, such little mass rising beneath the sheets that define her supine form.

The paper-swaddled nurse in the corner hovers over rows of sparkling stainless cutlery-like tools. She’ll have to fetch them quickly, and mistakes are not good.

The patient gives up all control to the doctors

Isabella is senseless now, consciousness gone. The drugs do that, and now the anesthetist pries her mouth open and peers in. The foot-long breathing tube slides in. She’s now completely under our control, an almost inanimate object.

Isabella has been losing weight for months. The selfish tumor takes her food for itself. I paint her abdominal skin with the antiseptic fluid. The tumor hump pushes up against the sponge stick. We arrange the green and blue paper layers carefully, hiding Isabella. Soon she’s gone. All that remains is the square of sickly orange-brown skin centered on her navel.

I cut her quickly with a knife, then move to a hot electric cautery. A sparking tip ignites her fat in a flash. Too hot.

“Turn the Bovie down to 30,” I murmur. We go on. A cloud of vaporized fat and fascia rises from the wound. I’m in now, and my hand gropes deep, till I find what I want. The tumor is mobile, and I pull it up and out, into the light, an ugly faceless lump encasing and dimpling her colon, about softball size. “Let’s take this out,” I say. I sound like a coach. And so we begin.

A few days later, I stand outside her room with a crew of young earnest surgeon types. A medical student begins, “This fifty-six-year-old woman underwent sigmoid colectomy three days ago. She’s afebrile, her abdomen is soft, her wound is clean and dry. She had a BM last night.”

“Good morning, Mrs. Montez,” I lead the group as we crowd around her thin hidden form on the hospital bed. Her roommate seems asleep behind the curtain that separates the two patients, but she could easily hear every word. The two women have talked about their kids, their spouses, their...
disease, their fears. They talk about the nurses and, especially, about their doctors.

“May I see your incision?” I ask and begin stripping the tape and gauze from her abdominal skin. “Looks good. Diet as tolerated, staples out on POD 7, please.” The young surgeon scribbles notes. Then I notice. Isabella has put on a face, used some make-up, a bit of blush on her cheeks, and lipstick. She’s back from her trip in Charon’s boat, her visit to Hades. “The lipstick sign,” I intone. “Usually seen on POD 5. Ms. Montez, you’re ahead of schedule. You’ll be just fine.”

Outcome: Back to normal, a lifelong scar . . . or worse

Surgeons do terrible things to patients. In a cold harshly-lit operating theatre, we render them helpless, unconscious, and mercifully unfeeling. We strip them naked, and cut them open, looking, grasping, moving things about, removing parts, replacing them, putting them back together. We give them immediate suffering in exchange for a better future, an almost religious bargain. And we know there’s no going back. Once I start working, Isabella Montez will never be the same. She’ll most likely be better, I think, but different, for sure. She’ll wear my incision’s scar all her life and, if things don’t work out the way we both hope for, she’ll take it with her to a perhaps premature grave. That realization of irreversibility haunts every surgeon’s decision.

Surgeons need some protection from this awful reality, and our defense mechanisms have to be robust, if not impenetrable. We erect some walls of separation. We sometimes depersonalize our patients, transform them from flesh and blood people, like us, with parents, loved ones, hopes, dreams, a future, into a body part, specifically, the one that’s acting up, misbehaving, the part that needs dealing with, to come out and be done with. The nagging hernia, the stone-filled gallbladder, the ulcerated stomach, the inflamed or cancer-burdened colon.

Surgeons experience surgery with shocking intensity. During an operation, every sense, tactile, auditory, and especially visual, is acutely energized, laser-focused on the task, every tissue probed and cut, every bleeding surface, every structure we disturb, and those we leave be. For days to months after an operation, I can recall the details of the procedure with singular clarity, a mental videotape that reruns when I encounter Isabella recovering, and even in my dreams. This remembrance gives Isabella a new and singular dimension that is our shared secret. No one has seen Isabella as I have, explored her in this frighteningly intimate way. And so, when I refer to her as “the colectomy,” I’m describing her in a dimension uniquely known between patient and surgeon.

Isabella, while she’s stripped and vulnerable, lying abed in pain, nevertheless has high hopes for me. She prays I’ll bring her good news, tell her that the tumor is gone, promise her it won’t come back, reassure her that she’ll live. Sometimes I meet these expectations, but too often I just bring more bad news. The tumor has spread, chemotherapy and radiation are next. And no promises for a future.

Under these circumstances, Isabella and I can’t get too attached. So we focus on the task, on my craft, the opening, probing, taking-out, rearranging, sewing up. But no commitment to the future, just the here and now.

Other doctors do commit. The pediatrician expects to see a child from birth through adolescence, to be witness to growth spurts, runny noses and fevers, first day at school, maybe a broken bone or bad appendix. Internists watch their patients for years, to detect the blood pressure or glucose or cholesterol misbehavior, to counsel against those bad choices we all make and seek absolution for, and to witness and hold at bay the slow breakdown of form and function we all suffer as we age. Even an obstetrician gets nine months with his patients, and a singular joyful new person as a reward.

Not so for surgeons. Our patients don’t want to get to know us. Mostly our failures keep coming back, and they’re often angry or sad at the predicament that keeps us together. My patients want nothing more than to hear me say, “You’re done with surgery for now. Let’s get you back to your doctor.” Or to the next specialist in chemotherapy or radiation therapy or rehabilitation. Just not more surgery, or surgeons.

Introducing a patient to the beginning of more living . . . or death

Isabella and her daughter came to my clinic two weeks after surgery. She admitted to being fatigued, but was eating good familiar food, enjoying visits from attentive family members, and described in singular detail her bowel habits. She knew I’d want to know. I had some good news.

“I have your pathology report. We got the whole tumor, and the lymph nodes were all negative. No tumor in the nodes. That’s good news.”

She began to weep, but then thought better of it, wiped her eyes, and murmured, “Thank you, doctor.” Her daughter hugged her. Isabella put on her coat, gathered her bag, and left arm in arm with her daughter. They’d be back in a few months for a check-up.

A few moments later, my resident introduced me to my next patient, a forty-three-year-old woman with a stone-hard breast mass, and a lump in her armpit. “May I examine you?” I asked. Her eyes filled with tears; she knew I would break her heart. I handed her a tissue, and we began to get acquainted.

The author’s address is:
21 E. 87th Street #9A
New York, New York 10128-0506
E-mail: jjreilly@prodigy.net

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Gravity shifts me to the ground.  
Mornings, I float down from dreams.  
Natural forces spark light and sound.  
Outside my head, again I’m bound  
By drugs, routines, and patient screams.  
Gravity shifts me to the ground.  
TV voices rejoice: lost children found,  
Early morning talk show schemes.  
Natural forces spark light and sound.  
Breakfast chatter all around,  
Wrinkled lips smile at nurses’ teams.  
Gravity shifts me to the ground.  
Ageless atoms in the air surround:  
Everything is just what it seems.  
Natural forces spark light and sound.  
Dreams reside in a “lost and found”  
Where I find myself, till morning beams.  
Gravity shifts me to the ground,  
Natural forces spark light and sound.

Bonnie Salomon, MD

Dr. Salomon (A.O.A, University of Illinois at Chicago, 1987) is an emergency physician and a member of the editorial board of The Pharos. Her address is: 139 Riverside Drive, Deerfield, Illinois 60015. E-mail: bonsalomon@aol.com.

Illustration by Karen Brezsnay
She wouldn’t hear the words, yet
Rivers appeared on parched creeks,
Traversing the hills and valleys of her face,
Leaving behind a desert, more barren.

She shivered now, in the silence
Of his permanent absence,
Praying anxiously that he did not suffer,
That his last moments held some element of peace.

Her mind willed itself to Kashmir,
To the soaring Chinar trees
Beneath which they first faced each other,
Memorizing details while sipping juice.

Please consider, she vaguely heard
The doctor say, stepping back.
This compelled her thoughts back to the blank white room as
She considered, questioned and contemplated.

Does the essence of a tree
Remain when it is fallen?
If then, its leaves are shorn and branches severed?

Her eyes moved past the hallway.
Outside she saw the sidewalk
Glistening in the onerous summer sun
Beside the small patch of yellow yarrow.

From the mud grows the lotus;
From the ashes rises the grass;
From neat, sliced logs comes the warmth of the fire.

She turned to the doctor.
Yes, she said, I will.

Radhika Sreeraman
When Orson Welles, whose *Citizen Kane* is considered by many to be the best film of all time, was asked to name the three best movie directors, he replied “John Ford, John Ford, and John Ford.” In *Directed by John Ford*, a masterful documentary tribute to Ford first produced in 1971 and updated in 2006, director Peter Bogdanovich interviewed Welles, Walter Hill, Martin Scorsese, Steven Spielberg, and Clint Eastwood. All acknowledged the debt they owed to Ford. Calling him a “Catholic poet,” Hill went on to say that “what set him apart was his sense of spirituality, his sense that death is not the end.” Bogdanovich illustrated this in such films as *Young Mr. Lincoln*, in which Lincoln (Henry Fonda) talks to Ann Rutledge at her grave and in *She Wore a Yellow Ribbon*, in which the Colonel (John Wayne) pays visits to his wife’s gravesite to share the news of his retirement from the army.

Paradoxically, Ford, whose pictures are suffused with the importance of family, had a disordered one. He was profane, had affairs, drank heavily, and was far from a model Catholic, yet his films respectfully portrayed Catholics and their imagery. Although his films radiated warmth, he was often very cold and off-putting in person. It sort of reminds me of my response to *Amadeus*, in which Mozart’s behavior is portrayed as hardly matching the excellence and otherworldliness of his work. To the extent that the portrayal was true (and many dispute it), I say, “So what! Just enjoy the works and leave him to God’s mercy where his oeuvre should speak for him.” The same holds for Ford. Indeed, nothing says it better than the line in Ford’s classic *The Man Who Shot Liberty Valance*. Senator Ransom Stoddard (Jimmy Stewart), whose career was built on his being the hero who shot the evil Valance, admits to reporters that it wasn’t him but his friend Tom Doniphon (John Wayne), who wouldn’t take

*Stagecoach*, 1939, directed by John Ford (left), starring John Wayne and Claire Trevor.

UA/Photofest ©United Artists
the credit. When he expresses dismay that the reporters won't print the truth, one replies, “This is the West. When the legend becomes the fact, print the legend.”

**Stagecoach (1939)**

Starring John Wayne, Claire Trevor, Thomas Mitchell, and John Carradine.


Called by some the first adult western, *Stagecoach* was one of the many classic films that has led 1939 to be labeled Hollywood's Golden Year. Other great films of that year include *Gone with the Wind*, *The Wizard of Oz*, *Mr. Smith Goes to Washington*, *Ninotchka*, *The Women*, *Goodbye Mr. Chips*, *Gunga Din*, *Dark Victory*, *Young Mr. Lincoln*, and *Destry Rides Again*. Director John Ford, who had already received an Oscar for *The Informer* (1935), and would go on to win three more (**The Grapes of Wrath** [1940], **How Green Was My Valley** [1941], and **The Quiet Man** [1952]), oddly enough was never honored for his quintessential westerns. Nonetheless, his influence is indelible, no more so than in *High Noon*.

This film is noteworthy for being the first Ford film shot on location in isolated Monument Valley, at the time 200 miles from Flagstaff over rough roads, and for making John Wayne, in his eightieth film, a star. Born Marion Michael Morrison, Wayne was a pre-law student at USC on a football scholarship, but when he injured his knee he could not afford to continue. Starting in Ford's silent films in 1926 as an extra, stuntman, and gofer, he worked his way up to a starring role in the 1930 film *The Big Trail*, for which Ford had recommended him. When the picture bombed, he became persona non grata with all the major
the victims of a foul disease called social prejudice, my child. These dear ladies of the Law and Order League are scouring out the dregs of the town. Be a proud glorified dreg like me.” Then taking her arm, he says, “Comtesse, the tumbrel awaits. To the guillotine.” And he ceremoniously leads her across the street before stopping at the saloon, where the bartender tells him that if talk were money he’d be his best customer, and gives him one for the road.

Another passenger is Samuel Peacock (Donald Meek), a whiskey drummer (salesman) complete with a satchel full of samples that Doc commandeers to get him through the journey. Another is a former Confederate soldier and now “notorious gambler” Hatfield (John Carradine), whose courtliness will also belie his disrepute. There’s a southern belle, Lucy Mallory (Louise Platt), who is traveling to reach her husband who commands the local cavalry garrison, only to learn that he is on patrol chasing the Indians. Another passenger, a presumably “upstanding” citizen, is the banker Henry Gatewood (Berton Churchill), who is given to statements that played to the discontent of ’30s audiences: “What’s good for banks is good for the country.” The husband of the head of the Law and Order League, he is absconding with $5000, the latest shipment by Wells Fargo.

The wagon driver Buck is played with comedic effect by Andy Devine. Strangely enough given his girth, Devine was a real cowboy who could handle the difficult job of controlling the stagecoach’s six-rein team of horses. This became essential when Yakima Cannut (born Enos Edward Cuniff), the greatest stuntman of all time, doubled as an Apache and jumped on the horses, and after being “shot” had to make two transfers through the rampaging team. He had only three feet to spare between the horses, and he timed it assuming the driver maintained the horses at a steady speed. See his Wikipedia bio to learn more about all the films for which he did or arranged the stunts. Despite his fearlessness, he died in his bed at ninety. His son did the stunt doubling for Charlton Heston in the famous Ben-Hur chariot race.

The last member of the ensemble cast is Marshal Curly Wilcox (George Bancroft), who is anxious to get to Lordsburg where The Ringo Kid (John Wayne), who has just broken out of jail, is headed to kill Luke Plummer (Tom Tyler), who killed his father and brother. He wants to make sure Ringo isn’t killed, not only because he likes him but also to claim the reward money for capturing him.

The Ringo Kid’s entry into the film, holding his saddle in one hand and twirling his Winchester in the other as the stagecoach rounds the bend, is considered one the most dramatic entries of a newly-minted star. Ringo joins the group as a captive and later, when the stagecoach is threatened, he becomes an essential team member. At first, he and Dallas are shunned as societal outcasts. He calls Dallas “a lady” and treats her as such. As their relationship deepens, Ringo’s rendezvous with Luke Plummer (Tom Tyler) and his brothers looms over it. The
film illustrates three hallmarks of Ford’s films: (1) a pictorial style of filmmaking, (2) spare dialogue, and (3) the use of facial and body reaction rather than dialogue to advance the story. This is best shown by Ford focusing on Wayne, who sits in the middle of the interplay of the characters, silently registering responses and reactions.

Thomas Mitchell won an Oscar for best supporting actor as Doc, who is hardly a great advertisement for the profession of medicine. He smokes cheroots and drinks during most of the trip and calls himself “not only a philosopher but a fatalist.” We do learn that he fixed Ringo’s brother’s arm. When Ringo adds, “You did a great job even if you were drunk,” Doc replies, “Thank you, son, professional compliments are always pleasing.” Doc is like a lot of the stock characters in Ford’s films, a compulsive drinker but a good man at heart who can pull himself together when needed. He does so on at least three occasions. The first is when he is reluctantly pressed into service after Mrs. Mallory faints. He calls for lots of hot water as well as lots of black coffee as he prepares to sober up for an emergency delivery, after which he says, “I brought hundreds of these fellas into the world and the new one was always the prettiest.” The second time, he saves the life of the whiskey drummer, who is shot with an arrow. The third takes place before the climactic shootout. He’s not your prototypical doctor as paragon, but he’s a good man nonetheless.

**The Horse Soldiers (1959)**

*Starring John Wayne, William Holden, Constance Towers, and Althea Gibson.*

*Directed by John Ford. Not rated. Running time 119 minutes.*

Unlike his protégé Wayne, John Ford was a liberal Democrat until late in life, and although his movies tended to glorify the military he was very critical of the effects of war on these men. Ford spent much of World War II filming in the heat of battle at Midway, the Normandy invasion, and other hotspots. On his return, he made one of the strongest anti-war films, aptly titled *They Were Expendable*. Even in the trilogy in which he vividly portrayed the U.S. cavalry, he shows a disdain for those who impetuously and vindictively pursue war contrary to the advice of veterans who counsel peace with the Indians. This is best shown in *Fort Apache*, in which the wrongheaded commander played by Henry Fonda refuses to listen to Wayne’s character and brings havoc on himself and his troops, but is remembered as a hero. In short, Ford conveyed a respect for those who fought for their country out of a sense of duty, while lamenting the waste of fine young men.

The film starts with a typically striking view of the cavalrymen singing “I Left My Love” as they go out on patrol, reminiscent of the scene in *She Wore a Yellow Ribbon*. Although the screenwriters drew on a novel by Harold Sinclair, the story has a basis in fact in Grierson’s Raid in April 1863 when the Battle of Vicksburg was at an impasse (see addendum). Grant and Sherman lament that “the war is not going well, not in Washington, not in the newspapers, not in the field.” They decide to send a patrol 300 miles deep into Confederate territory to destroy the railroad junction at Newton Station supplying Vicksburg. Heading the mission is Colonel John Marlowe (Wayne) of the Michigan militia, a railroad section hand in civilian life. He is assigned Colonel Phil Secord (Willis Bouchey), who is more interested in victories to help his political ambitions, and Major Hank Kendall (William Holden), an insubordinate military surgeon who arrives out of uniform. Kendall is more concerned about casualties and how the men will be cared for as they try to maintain the thirty-five-miles-a-day plan. Marlowe responds that “we’ll move on. It gives your people a wider opportunity for experimentation.” However, when they do suffer casualties, Kendall does agree to stop and send the wounded back, reducing his strength. They skirmish over the duty roster and Kendall’s refusal to certify a malaria patient for duty. The latter is replaced by Sgt. Major Kirby (Judson Pruitt), the familiar drunken sergeant. During a halt, Kendall agrees to deliver a baby in a poor black homestead, and afterwards says, “As many as I have delivered, it never fails to awe me.” He then adds, “One born, one dies,” referring to their first casualty. Marlowe tells him to confine his duties to the troops.
One needs to get past the hokey scene involving their coming upon a mansion inhabited by a Southern belle named Hannah Hunter of Greenbriar (Constance Towers) and her black maid Lukey, played by Althea Gibson, a tennis star between 1950 and 1958 who was called the Jackie Robinson of tennis (again check out her bio). Although the accents and the dialogue at dinner are cringe-producing, stay with it because there is a nice duplicitous twist at the end such that the two women are forced to join the patrol on its march to prevent them from letting the Confederates know of their presence. Hunter adds some spice to the movie, as she reinforces the doctor’s dislike for the Colonel. You also have to overlook Hunter being generally all made-up and well-coiffed except in the field hospital scenes, when Kendall operates without anesthetics and with little laudanum and copious whiskey. The benefits of a tree moss poultice that Kendall learned from a Cheyenne are extolled.

After the confrontation at Newton Station, the Colonel is upset at all the casualties and starts drinking, and reveals to Hunter why he has been so harsh on doctors. He says they say, “Medicine is the most noble profession. Banners held on high—so high they won’t admit they’re groping.” He then tells how he trusted the doctors when they told him that his wife had a tumor. They operated and found nothing. “They said they were sorry; they made a mistake. They had something to talk about before their next experiment.”

Although the mission is accomplished, Marlowe refuses to retreat and pushes on to Baton Rouge. Along the way they pass a black church where they are saluted. The cadets at Jefferson Military Academy, none of whom are over sixteen, and the school’s older reverend are pressed into service to delay the Union soldiers until Nathan Bedford Forrest’s cavalry can reach them. To Marlowe’s credit he refuses to fight them and turns tail and runs, leaving the cadets ecstatic. They recruit Deacon Clump (Hank Worden), who was part of the Underground Railroad, to help them escape from Forrest’s men. Kendall stays behind to care for the wounded, knowing that he will be imprisoned. As he says, “Medicine is where you find it, even at Andersonville.” The latter is one of the film’s anachronisms, in that the prison had not been built in 1863. Still, all in all, this is a picture worthy of putting on your rental list, if only to see a favorable portrayal of a doctor in the era before we got to be “the bad guys.”

Addendum

According to Wikipedia and other sources, The Horse Soldiers is based on the April 1863 raid led by Colonel Benjamin Grierson, who, with 1700 men, traveled several hundred miles from Northern Mississippi to disrupt the railroad from Newton Station to Vicksburg. The successful raid, which prevented troop reinforcements by General John C. Pemberton, was said to have been “remarkably bloodless.”

Dr. Dans (AlΩA, Columbia University College of Physicians and Surgeons, 1960) is a member of The Pharos’s editorial board and has been its film critic since 1990. His address is:

11 Hickory Hill Road
Cockeysville, Maryland 21030
E-mail: pdans@comcast.net
Reviews and reflections

David A. Bennahum, MD, and Jack Coulehan, MD, Book Review Editors

When the Air Hits Your Brain: Tales from Neurosurgery
Frank Vertosick, Jr.
Reviewed by Michael Egnor, MD

Neurosurgeon Dr. Frank Vertosick has written a superb and honest book about his training in neurosurgery. When the Air Hits Your Brain, first published in 1996, has become a classic. It’s been translated into five languages and has appeared on the reading list of several medical schools. It has been updated and re-released, and is well worth a second (or first) reading.

Dr. Vertosick recounts his journey from medical student to his decision, based on happenstance as well as intent, to become a neurosurgeon.

His account of the first neurosurgical operation he saw as a medical student recalls a scene painfully familiar to all neurosurgeons: a resident, hurried by his fear that he will displease the chairman (who has not yet arrived in the operating room) by taking too long to drill through a patient’s skull, inadvertently plunges the drill deep into the patient’s brain.

[The chief resident] grabbed the drill away from [the resident] and yanked it out of the patient’s head. A torrent of blood and some stuff that looked like runny strawberry milkshake poured from the small hole in the bone. . . .

. . . . . [The chief resident said], “Hopefully, we just trashed the cerebellar hemisphere. . . . If we went down to the [brain]stem, we’re all screwed. . . . Lordy, lordy, just so the stem is OK, tell me the stem is OK.”


“Yeah . . . ah . . . fine, sir,” Carl stuttered, “we just put a nick in the cerebellum, I think . . . We’re fine.”

The patient ultimately recovered from the mishap, but the pain of Dr. Vertosick’s initiation into the reality of neurosurgical practice—the thin line between healing and catastrophe—is unavoidable. All neurosurgeons must come to grips with it.

Much of Dr. Vertosick’s story is a wry account of residency training. He recounts the “skull-o-gram” incident, in which a resident was left to close a craniotomy that had been performed by an attending who had annoyed the resident by not allowing him to perform the main portion of the surgery. After the attending had left the operating room, the resident engraved his opinion of the attending on the bone flap—“FRED SUCKS”—before wiring it back into place. The wound became infected a few weeks later, and the attending, on reopening the incision, acknowledged the “skull graffiti” with a string of invectives. The enraged (and embarrassed) surgeon spent an hour drilling the message off the bone before sending the specimen to the pathology lab.

Neurosurgical arrogance is sometimes sardonic. Dr. Vertosick recalls a dinner with his chief resident (Gary) early in his training:

I was a Buddhist pupil seated in the presence of the Enlightened Master.

“The next five years of your life,
Frank, will be hard,” Gary continued, “but always remember this: If neurosurgery wasn’t hard, everyone would do it. Look at those fleas [non-surgical resident doctors] over there. Do you think they really want to write prescriptions for Inderal for the next forty years? Do you think they wake up at night screaming ’Dialysis! I must dialyze one more patient!’ . . . most of them wanted to be surgeons but just couldn’t hack the work it takes to be one. If a genie popped out of their pizza right now and said he could make them into any type of doctor they would want to be, . . . which one of them do you think would say ‘Oh, genie please make me a gastroenterologist so that I could look up someone’s ass all day and my office can be filled with spastic colon patients wanting to show me Polaroids of their latest bowel movement.’” pp149–50

But there’s much more than cynicism in Dr. Vertosick’s story. He shares stories of tragedies; a young woman dying after a car accident, talking to him while her brain oozes out of her skull, and his dread of telling her hopeful family in a nearby waiting room that she is gone. He recounts the story of a baby with a malignant brain tumor and the child’s teenaged parents who can’t comprehend that their daughter is seriously ill. The surgery does not go well, and the child is devastated neurologically. The doctors convince the parents to distance themselves emotionally from their daughter, so they stop visiting her. But she survives longer than expected and becomes the daughter, in a way, of the hospital staff, who care for her until she dies. In another case, a young mother in her late twenties was found to have a malignant brain tumor when she was pregnant with her first child. To the astonishment (and anger) of the treating neurosurgeon, this mother refuses abortion or chemotherapy, in order to give her child life, even at the cost of her own. She faithfully videotapes messages to her unborn son throughout her pregnancy, then dies of her tumor shortly after he is born.

In a chapter titled “Nightmares, Past and Future,” Dr. Vertosick expresses his agony over a surgical error that leads to a brush with “emotional incineration.” He operated on a forty-year-old man with an aneurysm on his middle cerebral artery. The man was neurologically normal prior to the operation, but during the dissection of the aneurysm, Dr. Vertosick accidently ruptured the thin dome of the aneurysm, causing massive bleeding that could only be stopped by occluding arteries to critical parts of the man’s brain. The patient had a massive stroke, was left paralyzed and unable to speak, and ultimately died. Dr. Vertosick explained the catastrophe to the patient’s wife immediately following the surgery:

“We . . . we had some bleeding . . . we were forced to put a clip around the main blood vessels to his left brain . . . He . . . he has had a very large stroke, I’m afraid . . .”

“A stroke? Is he . . . alive?” Her hands began to shake and her eyes filled with tears.

“Yes. Yes, he is alive. But he can’t speak or move his right arm or leg. I’m afraid that’s . . . permanent.”

“Permanent! You mean he’s never going to talk again?”

My eyes looked down. “Yes. Never. He may not even survive.”

She began to hyperventilate, then went to a wastebasket and vomited. Collapsing in a heap on the sofa, she buried her ashen face in her hands and began to weep softly.

“Is there anyone I can call for you? Friends? Family?” I knew that Charles had no children from either of his marriages.

“No, leave me alone. You’ve done enough.”

“It was a risk of the procedure . . . it was explained to both of you—”

“Go away.” pp217–18

The practice of neurosurgery is a mix of bravado, elation, and emotional incineration. But there is a connection, I think, between neurosurgical bravado and the agonizing task of working the fine line between healing and catastrophe. Neurosurgeons insulate themselves as best they can from the risks that they and their patients face each day. Neurosurgery contains a remarkable array of characters, most quite decent and talented men and women, but a few, not so. But all neurosurgeons inflict serious harm, at times, and all must come to some kind of accommodation with this agony of our profession. Each of us lives with faces in our mind—faces of people we’ve hurt, or even killed. Some of us accommodate with cynicism and hubris. Some accommodate with a passionate effort to master surgical technique, even at the expense of other important but less technical medical and interpersonal skills. Some accommodate by restricting their practice to types of operations that can be performed with minimal risk. Some burn out and quit practice. Some devote themselves to money, sex, alcohol, or drugs. Some take up causes. Some become atheists and make up nihilistic stories about the lack of meaning in life. Some find faith in God. In one way or another, all neurosurgeons accommodate.

Dr. Vertosick has written a superb book, an honest account, of how he became a neurosurgeon and how it changed him. And one can see in his wry narrative and engaging stories how he has learned to cope with the dilemma at the heart of neurosurgery. He copes, at least in part, by telling the truth about what it means—and what it costs—to take such enormous risks to heal.

Dr. Egnor is professor and vice chairman of Neurosurgery at the State University of New York at Stony Brook, where he has been on the faculty since 1991. His address is: Department of Neurosurgery 12080 Health Sciences Center Stony Brook University Stony Brook, New York 11794-8172 E-mail: megnor@notes.cc.sunysb.edu
How do you create a poem? Do you sit at the keyboard (now a computer, no longer pencil and paper or manual typewriter) until beads of blood form on your brow? Do you stare at the ceiling for inspiration? Loreen Herwaldt, an infectious disease physician at the University of Iowa has a different approach. She selected twenty-four well-known authors, some but not all of them physicians, and interviewed them at length about their experience of illness and their interaction with the medical care system. Then, from their lengthy interviews she distilled short pieces that omit all the unnecessary words. Shades of Strunk and White! She calls them “Found Poems.”

Herwaldt doesn’t want to claim her work is poetry, but I have no idea what else to call it. Consider this little treasure that deals with the common erroneous assumption that you have to have worn the shoes of your patient to empathize with him or her. Well, sometimes having been in that very situation gives you a better understanding of the patient’s reaction, but sometimes your own reaction gets in the way. Here’s Herwaldt’s “Nightmare,” distilled from Tom Sleigh, who describes himself as a poet with PNH, paroxysmal nocturnal hemoglobinuria. In this piece Herwaldt has taken Sleigh’s prose comments and rendered them, boiling down the fat, into a lean and surely poetic form:

**Nightmare**

*My mother arranged for me to see a doctor who had PNH. He wouldn’t transfuse me. His experience with PNH was you don’t transfuse. It was so stupid and useless, and pointless that I was denied transfusions because my doctor had been through this experience. He was a good man and a good doctor, but it was frustrating and infuriating to deal with him because he didn’t have the detachment to step away from his case and look at my case.*

Everyone thought he would be so compassionate. But I could not get him to listen. He refused. He was adamant. He knew it had to be done his way.

It would be a much smarter idea to have a hematologist who did not have the same disease I was suffering from.

I talked to him two years ago. It was amazing, utterly amazing. He said to me, “Every time I have a hemolytic episode, I think, man, this is it. I’m convinced I’ll hemolyze down to 19 and die.”

His guard came down. It was touching and it delighted me. But on the other hand, boy, what a nightmare it was to have him treat me.

Doesn’t that tell the story? Yes, I’ve had patients ask me how I could possibly understand how they were feeling when I never had gone through the same experience.

“You’ve never been pregnant, have you?”

“You’ve never lost a child, have you?”

It is easy to back off and say that I have never experienced that so, of course, I cannot understand. But the arm that reaches out to others for us is our imagination, and we can always reply, “No I haven’t, but I can imagine that it is the worst loss a person can have.” And having been in that person’s shoes doesn’t mean that they crimp in exactly the same places. I recall a female oncologist who told her patient, “You must be really angry to discover the breast cancer.” The patient denied any anger and the oncologist responded with “Well, I had breast cancer and I was plenty angry so you must be too.” What a nightmare! We need our doctors to understand us, not just understand themselves.

Herwaldt approached numerous authors, some of them eager to contribute to her project and others reticent. In the end she narrowed down to twenty-four interviewees; some, such as Richard Selzer, Oliver Sacks, and Arthur Frank, were well known to me; others less so. A few use aliases, *nom de plume*. I find many of the resultant poems wonderful and others ho-hum, but it is Herwaldt’s process that seems most fascinating and relevant to readers of *The Pharos*. After all, the big question is, “Of what use is poetry to doctors?” Here are four of the many possible answers to that question.

1. Poetry can be fun. There are lots of physician-poets out there who create poetry that delights. You may be one of them. Give it a try. And it can also be fun to read.

2. You may end up with a poet or two in your practice, and they may be champing at the bit to show you their work. Read it. The poems will help you understand them better than the prose they speak and will likely be more succinct.

3. Great poems can evoke and
Reviews and reflections

Speaking Their Language
I didn’t learn medical language only to communicate with doctors. It gave me a sense of power too. Using medical language with doctors was kind of like using my high school French when I went to Paris. Let me put it this way. Some doctors would encourage me, help me along. I felt they were open to my questions because when they used words I didn’t understand, I would say, “Well, what’s that?” and they would explain. Then there were other people who could tell, of course, that I didn’t know much and they would be like almost insulted that I would even try. It was as if they were saying, “Leave that to me. Leave that kind of talk to me. You just had swollen ankles. You didn’t have edema. Let me talk about edema.”

That’s the way it was when I used medical language.

Sekou Sundiata died in 2007 and Herwaldt dedicates her book to that brave person who had the courage to speak medicalaese like someone attempting high school French in Paris. It is a fitting tribute in a fine book.

Dr. Platt is a general internist in private practice and clinical professor of Medicine at the University of Colorado. A leading authority on communication skills in medicine, Dr. Platt is the author of Conversation Failure, Conversation Repair and Field Guide to the Difficult Patient Interview. His address is:

396 Steele Street
Denver, Colorado 80206
E-mail: plattf@hotmail.com

Henderson’s Equation
Jerome Lowenstein
Gadd & Company Publishers, Great Barrington, Massachusetts, 2008, 304 pages

Reviewed by Jay Baruch, MD

I must start with a confession: I dreaded acid-base balance in medical school. Comprehending the dissociation and movement of ions, the creation of buffers, the arrows darting into and out of blood, kidneys, and lungs led directly and immediately, I believe, to my hair loss. Late at night, nauseated from too much caffeine, jittery with self-doubt, I’d torture myself even further by considering the truth of my predicament. I wasn’t intelligent enough to grasp fully the intimate details intuited and refined by Lawrence J. Henderson. Unlike me, he didn’t need to check the answers at the back of the textbook. I’d get depressed, then I’d eat a pint of Ben & Jerry’s. Dr. Henderson was known to us only as a surname, a tag attached to some seminal equations that described how the body used buffer systems to maintain neutrality with changing acid concentration in blood. Now he appears in the flesh as a central character in Dr. Jerome Lowenstein’s novel Henderson’s Equation.

I wish I’d had Dr. Lowenstein to explain the beauty of Dr. Henderson’s intricate and provocative thoughts. The specific details by which the body regulates itself and maintains dynamic equilibrium through elegant buffering systems comes alive in this novel, partly because the ideas of “fitness” and the relationship of the organism to his or her surroundings, and Henderson’s later application of his physiological principles to sociological systems, takes on metaphorical resonance.

I don’t know how best to categorize this work: novel, creative nonfiction, memoir? Maybe all three genres were recruited to construct a story that feels innately personal and intellectually ambitious. The story centers around Aaron Weiss, a young Jewish medical student...
with roots on the Lower East Side of Manhattan. The book chronicles his development and evolution as a physician, son, husband, father, and friend against the backdrop of social and political unrest in the early twentieth century. Much of Lawrence Henderson’s character is biographically faithful to the real-life chemist, physiologist, sociologist, and philosopher. The novel draws a brilliant, complex man as seen through the adoring eyes of an equally brilliant student. Henderson is enigmatic, gracious, and quirky, but also a self-centered, elitist, and removed man of ideas.

The breadth of Henderson’s ideas is woven into the narrative. The reader feels ionized and nonionized characters dissociating and recombining, buffering to achieve balance in their lives. To quote Henderson: “Effective planning of one’s life was impossible and that the art of living was in great part the art of adapting one’s self to the changing pattern of external circumstances.”

The notion of dynamic equilibrium resounds throughout this narrative work. How does a poor, working-class Jew fit into the affluent Brahmin world of Harvard Medical School in the early twentieth century? How does a physician square courageous and often unflattering commitment to poor and vulnerable patients with the more detached, intellectually progressive, and reputation-building work in research? How does one measure his or her ideals and values when they’re tested in original and unimaginable ways?

The tender, tenuous, and volatile relationship between Dr. Henderson and Aaron casts a penetrating light on the mentor/student relationship in medical training. Interestingly, as Aaron advances in his career, he doesn’t establish new mentors in medicine. He constantly craves his early mentor’s approval, and seems envious of and bitter about the succession of brilliant young protégés taken under Dr. Henderson’s wing. As Aaron grows older, he begins to view his mentor differently, begins to tease apart the contradictory elements in the man from his powerful influence. The mentor/student relationship is a mysterious bond. I related to a young doctor connecting with a rare, inspiring, and perhaps flawed teacher or role model, and holding him in his sights as he advances in his career. The mentor storyline also speaks to the profound impact students and former students can have on their mentors. The inspiration moves in both directions, establishes a balance, a neutrality, and, if they’re lucky, true friendship.

Aaron’s relationship with Henderson is situated alongside his sweet connection with DePodesta, a poor but skilled Italian carpenter and wood craftsman he meets one summer working in his Uncle Max’s factory in Brooklyn.

Dr. Lowenstein has written a book that takes us back in time, but touches upon timeless topics in medicine. Medicine is a complex system with multiple powerful forces at work. Social determinants of health, like poverty, working conditions, and access to healthcare, are increasingly relevant today. Now, more than ever, physicians must think about patients as individuals with singular experiences, relationships, and worlds, not simply as diseases in a textbook. Dr. Weiss told Dr. Henderson:

Working with patients, I seek the opposite. I seek the unique . . . each patient’s experience of disease is unique. The most important part of the relationship with a patient is the physician’s ability to respond to that uniqueness. This is what I teach my students. And at the same time, I teach them that the regulation of acidity in the body requires an understanding of interacting variables in a complex system.

Towards the end of his career, Henderson directed his energies to the student/physician relationship. He said: “How do we teach students to become caring physicians when we do not understand the basic system?”

This book could serve as a springboard for any number of larger discussions on health care systems, physician training, caring for the poor and underserved populations, social determinants of health, and the process of nurturing and negotiating valuable relationships in medicine.

Medical training and the practice of clinical medicine is a personality stress test. If there are blemishes, opinions, biases, insecurities that had been safely concealed, the intense experience of medical school and medical practice will eventually root most of those out. And this isn’t necessarily a bad thing. To study medicine, to be a careful and caring clinician, to be appropriately sensitive and humane, you must first study yourself, and discover how and where you fit.

Dr. Lowenstein is an accomplished researcher, clinician, educator, and medical humanist. The breadth of his expertise is illustrated through work that ranges from the book *Acid and Basics* to his role as publisher of the *Bellevue Literary Review*. *Henderson’s Equation* adds to his wide-ranging contribution to medical writing.

Dr. Baruch is an emergency physician at Warren Alpert Medical School of Brown University, where he also directs the ethics curriculum for medical students. His book of short fiction, *Fourteen Stories: Doctors, Patients, and Other Strangers* (Kent State University Press, 2007) received Honorable Mention in *ForeWord Magazine’s* 2007 Book of the Year Awards. His address is: 55 Claverick Street, 2nd Floor Providence, Rhode Island 02903 E-mail: Jay_Baruch@brown.edu
2008 Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Awards

Each year since 1988, Alpha Omega Alpha, in cooperation with the Association of American Medical Colleges, presents four faculty members in American medical schools with the AΩA Distinguished Teacher Award. In 1997, AΩA named the award to honor its retiring executive secretary Robert J. Glaser, MD. Nominations for the award are submitted to the AAMC each spring by the deans of medical schools.

Nominations were reviewed by a committee chosen by AΩA and the AAMC. This year’s committee members were: Paul Aravich, PhD; Robert B. Daroff, MD; Richard deShazo, MD; Steven L. Galetta, MD; Robert M. Klein, PhD; Virginia M. Miller, PhD; John Nolte, PhD; Louis N. Pangaro, MD; Richard Schwartzstein, MD; James L. Sebastian, MD; Steven Spitalnik, MD; Michael Vergare, MD; Robert T. Watson, MD; Jeffrey G. Wiese, MD.

Winners of the award receive $10,000, their schools receive $2,500, and active AΩA chapters at those schools receive $1,000. Schools nominating candidates for the award receive a plaque with the name of the nominee.

Brief summaries of the accomplishments in medical education of the 2008 award recipients follow.

Peter G. Anderson, DVM, PhD
Professor of Pathology, University of Alabama School of Medicine

Dr. Anderson has a widespread national and international reputation for his design and production, with colleagues, of the Pathology Educational Instructional Resource (PEIR.net). Matching the increased use of web-based teaching materials, this is one of the most popular electronic resources for pathology educational materials. At the University of Alabama, Dr. Anderson is a powerful and effective teacher, being nominated for or receiving the awards each year for Best Teacher, Best Course Director or Best Course. In 2003 he received the highest teaching honor at UASOM, the President’s Award for Excellence in Teaching. He has been Coordinator of the School of Medicine’s Medical Education (Curriculum) Committee since its inception. He is chair of the USMLE Step 1 Pathology Examination Committee, and will join the National Board of Medical Examiners in 2009. Within the University of Alabama, his leadership skills have been recognized by his election as chair of the UAB faculty senate. He has been well funded by the NIH and other sources for his research into the mechanisms of hypertension and cardiovascular diseases.

Dr. Anderson earned his DVM at Washington State University, and his PhD in Experimental Pathology at the University of Alabama at Birmingham.

Daniel W. Foster, MD, MACP
John Denis McGarry, PhD,
Distinguished Chair in Diabetes and Metabolic Research, University of Texas Southwestern Medical School

Following his fifteen-year tenure as chair of Medicine at the University of Texas Southwestern Medical School, Dr. Foster became the John Denis McGarry, PhD, Distinguished Chair in Diabetes and Metabolic Research. Three qualities emphasize his teaching excellence: (1) Integrity, (2) a great intellect and sense of compassion and justice, and (3) devotion to his patients and students. Dr. Foster continues to be one of the most popular attending physicians on the medical wards. He has received twenty-six awards as a distinguished teacher from medical students at UT Southwestern, as well as the Upjohn Award for the outstanding Physician Educator in the field of Diabetes (1988), the Robert H. Williams Distinguished Chair of Medicine Award (2001), a Great Teacher Award from the National Institutes of Health (2002), and the Eric Neilson, MD, Distinguished Professor Award from the Association of Subspecialty Professors (2007). Dr. Foster’s interests outside of the labora-
tory and teaching include leadership and bioethics, civil rights, and religion, which culminated in his being named to the President’s Council on Bioethics in 2002. He is the host on “Daniel Foster, MD,” a weekly television series on PBS and the BBC.

Except for two years as a clinical associate at the NIH, Dr. Foster has spent his entire life in Texas. He earned his MD at UT Southwestern, graduating first in his class and being elected to AΩA in 1954, and he stayed on for his residency in Internal Medicine under the direction of Donald Seldin. He serves on the editorial board of The Pharos.

David W. Nierenberg, MD
Edward Tulloh Krumm Professor of Medicine and Pharmacology/Toxicology and Senior Associate Dean for Medical Education, Dartmouth Medical School

Since arriving at Dartmouth on the faculty in 1986, Dr. Nierenberg has been known as an “educational star” at DMS. He founded what remains the best course at Dartmouth, Clinical Pharmacology and Therapeutics, given to the entire senior class. In addition to a sound foundation in therapeutics, he has modeled for students how to be free from influence from the pharmaceutical industry. Since 1992 Dr. Nierenberg has directed the Scientific Basis of Medicine course correlating organ system physiology, pathology, and clinical disease. Recently, he has worked on curricular renewal, the New Directions plan utilizing problem-based learning to develop competency-based physicians. His longevity as a teacher is reflected by his having received from the graduating class in 1986 the Clinical Sciences Teaching Award, with repeated awards in 2000 and 2008. In 2005 and 2007 he was given the Best Educator prize in the Department of Medicine. Second-year students in 2005 and 2007 voted him their best lecturer, small group leader, and overall educator.

Dr. Nierenberg arrived at Dartmouth following his undergraduate and medical school experience at Harvard, where he was elected to AΩA in 1976, his residency in medicine at the Beth Israel Hospital, research training at UCSF, and chief residency and early faculty appointments at Stanford University School of Medicine.

Paul L. Rogers, MD
Professor, Critical Care Medicine, University of Pittsburgh School of Medicine

Dr. Rogers has seven Golden Apple awards for Excellence in Clinical Education sitting on his desk, and six awards as the Critical Care Medicine Faculty member of the year. Rounding out these recognitions are the University of Pittsburgh Chancellor’s Distinguished Teaching Award (1996) and the Society of Critical Care Medicine Presidential Citation Award (1999). His dean calls him “the most highly regarded educator at our school, both by students and by peers.” Dr. Rogers has been a pioneer in the use of human patient simulation as a teaching modality for medical students. At the University of Pittsburgh, his innovations set in motion an institutional decision to embrace high-fidelity simulation as an essential education modality. His excellent curricular developments facilitated a decision to require critical care medicine as a component of the internal medicine clerkship. Dr. Rogers conducts daily teaching sessions with medical students before leading bedside rounds in the ICU. He has received substantial research funding for his work in experimental therapeutics in critical illness.

After receiving his BS at Century College and his MD degree at the University of Arkansas, where he was elected to AΩA in 1981, Dr. Rogers was an Internal Medicine resident at the University of Virginia and Critical Care fellow at the NIH. He joined the University of Pittsburgh faculty in 1987.

Distinguished teacher nominees
Murray Altose, MD, Case Western Reserve University School of Medicine
William Anderson, PhD, University of New Mexico School of Medicine
Ronald Arky, MD, Harvard Medical School
David A. Asch, MD, University of Pennsylvania School of Medicine
Chantal Breau, MD, UMDNJ-New Jersey Medical School
Patrick Carr, MD, University of North Dakota School of Medicine and Health Sciences
Francis Counselman, MD, Eastern Virginia Medical School
Craig Wilson Davis, PhD, University of South Carolina School of Medicine
Thomas M. De Fer, MD, Washington University in St. Louis School of Medicine
Donna Elliot MD, Keck School of Medicine of the University of Southern California
Glenn Gabbard, MD, Baylor College of Medicine
Bertha Garcia, MD, University of Western Ontario Faculty of Medicine and Dentistry
Erika Goldstein, MD, University of Washington School of Medicine
Joel A. Gordon, MD, University of Iowa Roy J. and Lucille A. Carver College of Medicine
Joseph B. Hall, MD, University of Chicago Division of the Biological Sciences Pritzker School of Medicine
Thomas S. King, PhD, University of Texas Medical School at San Antonio
Arno Kumagai, MD, University of Michigan Medical School
Albert Kuperman, PhD, Albert Einstein College of Medicine of Yeshiva University
Linda Mottow Lippa, MD, University of California, Irvine, School of Medicine
Fred A. Lopez, MD, Louisiana State University School of Medicine in New Orleans
Bennett Lorber, MD, Temple University School of Medicine
Susan Masters, PhD, University of California, San Francisco, School of Medicine
Gary D. Plotnick, MD, University of Maryland School of Medicine
Eid A. Rogers, MD, Southern Illinois University School of Medicine
Monica Shaw, MD, University of Louisville School of Medicine
Myles Sheehan, MD, Loyola University Chicago Stritch School of Medicine
Jack T. Stern, Jr, MD, Stony Brook University Medical Center School of Medicine
John Tarpley, MD, Vanderbilt University School of Medicine
Patricia Thomas, MD, Johns Hopkins University School of Medicine
Letters to the editor

Re “Wrongful death”

I read your recent editorial (Summer 2008, p. 1) with the greatest interest: it recalled a score of patients throughout my nearly fifty-year career as a hematologist and oncologist.

You struck a marvelous balance without being stridently censorious . . . and it shined a light on homeopathy which celebrates the dictum of “primum non nocere.”

Thanks for your successful efforts.

George H. Porter, MD
(AΩA, Duke University, 1958)
President Emeritus, Ochsner Clinic Foundation
New Orleans, Louisiana

I just read your editorial in the recent issue of The Pharos. Do you remember the band leader Kay Kyser, who had radio shows on NBC in the 1940s?

Some time in the mid 1940s he converted to Christian Science to help his “arthritis.” During his active days, he married late to a young singer in his band, Georgia Carroll. He moved to Chapel Hill in 1951. They had two girls. As a freshman in 1953, I remember the Kyser’s rolling the children in a baby carriage. We became friends. My late physician father had known Mr. Kyser when they were in undergraduate school.

I was a medical resident at the hospital in 1962. One night, when I was on call, I stopped by the ER to see what was going on. Mr. Kyser was standing against a wall. I said, “Mr. Kyser, can I help you with anything? He said, “Duncan, one of my daughters is sick with appendicitis and they want to operate on her.” I told him I would check on things. When I came back to see him, I told him I had checked things out and she needed surgery. He said, “Yes, I want her operated on but I can’t sign for it because I’m a Christian Scientist, as you know.” I felt a chill go down my spine. Mr. Kyser then said, “Georgia is not a Christian Scientist. She could sign but she’s visiting her mother in California.” Another spinal chill. After relaxing a few seconds, I said, “Do you have her phone number?” We had the hospital phone operator call the number and got Mrs. Kyser. I told her what was necessary, she said, “Yes,” as the phone operator and another resident listened in.

Years later, the other daughter developed ovarian cancer, said goodbye to her friends, and went off somewhere to die.

I have never understood Christian Science. I wish when I was a student at UNC School of Medicine they had Mr. Kyser come to a class or Grand Rounds and discuss it.

Duncan S. Owen, Jr., MD, FACP
(AΩA, Virginia Commonwealth University, 1989)
Richmond, Virginia

My general practice was in Los Gatos, California. I had an estimated 150,000 patient encounters in forty years.

One day out of the blue came a phone call from San Francisco, the producer of an excellent medical TV show. I don’t know how he got my name.

“I have a niece who is a Christian Scientist, who is very ill in your area. Would you see her? She’s only twenty-eight and can’t get out of bed at home.” I phoned the home and said I was coming to see her. “Okay”—shortly the husband called our office and canceled the house call. I went anyway and knocked on the door, was treated courteously and shown to her bedside.

I found a young woman lying on her side with a contracture of her hip due to a ruptured appendiceal abcess presenting in her groin. The husband would carry her to the bathroom. Her temp was 101 and she was quite pale. She had been bedridden for three weeks.

The husband agreed to hospitalization, and there I got consultation from my wonderful surgeon friend, who was a gentle, quiet guy, not threatening in any way. Together we took her to the OR, drained the abcess, and started antibiotics. Later, she walked out of the hospital.

Some months later I got a letter from the patient, thanking me, and saying that she was wrestling with her belief in Christian Science and had not come to a conclusion yet.

So thank you for teaching me what I didn’t know about the background of Mary Baker Eddy and Phineas Parker Quimby.

William W. Johnson, MD
(AΩA, Northwestern University, 1953)
Medford, Oregon

Medical illiteracy

The summer issue was superb. Every article sparkled with elegant writing and pertinent new information (to me). But several of the essays left me with a forlorn sense of angst. In my simple-minded view, the historical and contemporary popularity of alternative medicine (CAM is an unfortunate euphemism) is primarily related to the
dismal medical illiteracy of the public, a worldwide phenomenon. Far too many are uncritical and uninformed, regardless of sophistication or level of education—thus vulnerable to myth and hype. What is printed or spoken in the media seems to be accepted as inviolate “truth”—despite tons of evidence to the contrary. The Internet has had an ambivalent influence; most people are insufficiently curious or critical to identify sources, even when such are available.

One possible partial solution I once entertained was to educate our young about the basic science and logical rationality of the scientific method. Many years ago, when I first was retired from medicine, I lived in a remote rural community. Just for fun, I undertook to teach “scientific method” to senior high school students as part of their science class. Among other things, I tried, in one lecture, in simplest language (with metaphor and blackboard), to describe the mechanism and critical importance of randomized controlled trials in medicine. I also expressed my professional humility at the vast area of unknowns in human physiology, the many uncertainties in medical knowledge, and the need for all of us to be observant and critical of many things we read and hear in the popular media—to insist on reasonable scientific “proof” before accepting things as “facts.”

It was a disaster. Perhaps it was the clumsy technique of the pedagogue, but the very few students who managed to remain awake seemed to grasp the basic idea that they should be critical of what they heard and read. Maybe that should have been enough.

I suspect that reasonable medical literacy, especially a sense of skepticism about what is loudly (or subtly) touted in the media, may be imparted to students by those more skilled—but probably not. Sadly, I suspect it is a lost cause.

Robert H. Moser, MD
(AoA, Georgetown University, 1969)
Green Valley, Arizona

1955: Polio and the bomb

Samantha Williamson’s excellent winning student essay, “The Congressional Polio Vaccine Hearings of 1955” (Spring 2008, pp. 13–21) described the role of Dr. Thomas Francis and awoke memories of my first month of internship on the Tufts service at the old Boston City Hospital (BCH) during July 1955. Dr. Francis, at the University of Michigan, was the influential epidemiologist for the Salk polio vaccine program at the Congressional Polio Vaccine hearings in the Spring of 1955. He also was the major architect for a project in which I participated fourteen years later; the second Francis Report, delivered later that year, established the epidemiologic basis defining the closed populations that would be examined every two years for health effects of the atomic bombs dropped on Hiroshima and Nagasaki in 1945. Benefits of the Salk vaccine and the biennial examinations of A-bomb survivors continue today.

The wards of the BCH infectious disease building were virtually empty when I arrived. Before the end of the fourth of July holiday weekend, polio suspects began to arrive. My co-intern and I performed increasing numbers of spinal taps, filled the empty ward beds and learned quickly how to hand pump the respirator bellows when electricity failed. Before the end of July more help arrived. There was no specific treatment, mostly isolation, hot packs (the Sister Kenny method), and analgesics for myalgia and headache.

The building housed mementos of past epidemics. The spinal trays were porcelain with glass manometers. The iron lung was not far from the beds. A fireman’s pole sped the on-call house officer from his bed on the second floor to expedite treatment of a choking child with a mahogany obturator to break a diphtheritic membrane.

At the Atomic Bomb Casualty Commission (ABCC) in Hiroshima and Nagasaki, Japan, post-World War II Japanese numbering more than 100,000 are still being followed for their health outcomes after the A-bombs. These included pregnant women and children who were exposed. The systematic observations, based on the template of the Francis Report of 1955, have become the major basis for current radiation protection recommendations. Major findings, particularly cancers and growth and developmental effects in those heavily exposed, have been widely published. The next generation is not affected.

The two Francis Reports, about six months apart in 1955, and the Congressional hearings that year affected the lives of many people worldwide, including me and my family. My marriage that year was sensational, but had little global attention.

I joined ABCC in 1969 as Chief of Medicine for the next three years and, with my wife, Jane, and four children aged seven through thirteen, lived in Itsukaichi, a suburb of Hiroshima, in an elegant Japanese house overlooking a fishing boat harbor on the Inland Sea.

Joseph L. Belsky, MA, MD
(AoA, Albany Medical College, 1954)
Danbury, Connecticut

More Real doctors in the movies

I was glancing through the latest Pharos and, as always, your movie reviews. I noted the question of actual physicians in feature movies and wanted to reply. The Steve McQueen movie classic Bullitt was, as I’m sure you know, shot in San Francisco in about 1967. A fair amount of the movie was shot at the old San Francisco General Hospital and a number of physicians, mostly house staff, were in the film. Two of them I knew well. They were Louis Gilula (now a radiologist at Washington University in St. Louis) and Lorne Eltrington (an anesthesiologist at Stanford and in practice in Redwood City, California). Both had speaking roles, which were highly prized as the roles paid $250, which you will remember was truly a windfall profit based
Letters

on our house staff salaries in 1967. Lou played an anesthesiologist in an OR scene (note it was Lorne who ultimately became the anesthesiologist) and Lorne, if my memory is correct, had two speaking scenes! Part of my vivid memory of these details comes from envy. You see, both Lou and Loren were my interns then when I was a first-year resident (now called an R2) and they got the parts and I didn’t. Envy is especially green when others get the green.

Gerald Charles, MD (ΑΩΑ, University of Colorado, 1966) University of California, San Francisco

The summer issue of The Pharos is splendid, from cover to your thoughtful and informative film reviews. The question of doctors as film actors was intriguing.

Do bit parts count? While I was in my four years of training for Pathology (1953–1957) at what was then the U.S. Public Health Service Hospital on Staten Island, New York, the head of the OB/Gyn division was a Dr. Robert B. Dorsen, an excellent obstetrician in the old style, who eventually delivered three of our six children. Bob delivered our son Douglas (1955) by the normal route, despite a forecoming hand, with no harm to mother or baby. He was justifiably proud of avoiding a C-section by careful maneuvering during the birth process.

Bob was also proud of having had a bit part as a public health officer in Panic in the Streets. It has been so long since I viewed that film that I cannot recall whether Bob had any spoken lines. At any rate, Bob will always have a special place in our hearts. I doubt that he is still alive, but wherever he is, he deserves respect as a fine doctor . . . and actor!

John L. Meyer II, MD (ΑΩΑ, SUNY Downstate, 1948) Rockland, Maine

I am aware of at least one “real doctor” who had a somewhat memorable role in a very substantial movie. Kent Brooks, MD, a 1942 graduate of the University of Kansas School of Medicine, played the role of the ineffectual Dr. John Spivey in One Flew Over the Cuckoo’s Nest. Dr. Brooks was Superintendent of Oregon State Hospital, where the film was shot, and he gave co-producer Michael Douglas access to a vacant ward and the hospital grounds in 1975. Dr. Brooks came under fire for allowing Cuckoo’s Nest to be filmed at Oregon State Hospital and for tacitly portraying psychiatric treatment in a harsh and technically incorrect light for the time period (for example, anesthetics and muscle relaxants were in common use in 1975 even though the film shows Jack Nicholson’s character receiving ECT without such benefit). In fact, in the wake of a long history of documented patient abuses, Oregon State Hospital is being torn down and rebuilt. Dr. Brooks, who retired from practice in 1999, is now ninety-one years old.

Arthur Lazarus, MD, MBA (ΑΩΑ, Temple University School of Medicine, 1980) Chadds Ford, Pennsylvania

Regarding physicians who were cast in feature films, I submit Bruce Gewertz, who was a year or two behind me at Jefferson. Bruce, a surgical department chairman in Chicago, played the department chairman at Richard Kimball’s (Harrison Ford) hospital in the movie version of The Fugitive. You will recall that movie also featured mountains and a very large dam in the plains of Illinois.

James E. Barone, MD (ΑΩΑ, Jefferson Medical College, 1970) Stamford, Connecticut

Calling Dr. Laennec!

René-Théophile-Hyacinthe Laennec was born on February 17, 1781, and died on August 13, 1826. He invented the stethoscope in 1816 and reported its use in a paper entitled “De l’Auscultation Médiate ou Traité du Diagnostic des Maladies des Poumons et du Cœur,” published in 1819. Laennec found direct auscultation of the thorax to be less than ideal under many circumstances. Stimulated by his observation of children playing near the Louvre listening to the end of a long piece of wood that transmitted the sounds of a pin scratching, the following day Laennec rolled a piece of paper into a tube, tied it with a string and listened to his patient’s chest. Being a carpenter, Laennec fashioned his listening device from wood, constructing a cylinder 25 centimeters long and 2.5 centimeters in diameter. Thus the stethoscope was born. Laennec died of pulmonary tuberculosis. His nephew, Meriadec, listened to his uncle’s chest and heard the fateful sounds of pulmonary tuberculosis. He used his uncle’s stethoscope to make the diagnosis. Laennec returned to Brittany from Paris following the diagnosis, which was a harbinger of certain death at that time. While in Brittany, he wrote his will, in which he bequeathed his stethoscope to his nephew.

Recently I had a routine appointment with my doctor. A few days later I accompanied my wife to a follow-up appointment with her oncologist. Thankfully both encounters resulted in good news. At each of the two visits the patient was examined first by a fellow and then by the attending physician. On all four examinations of the thorax, the physician listened through the patient’s shirt or gown, never raising the clothing to listen to the lung fields or, for that matter, to percuss the thorax. I cannot say that I was shocked by these observations, rather I was surprised and disappointed. Having examined the chests of thousands of patients during the past fifty-five years in the specialty of Thoracic Surgery, I learned that, at least for my hearing process, application of the stethoscope directly to the skin yields the most dependable auditory transmission.

Like others of my vintage (MD 1953) I decry the decline and misuse of the History and Physical Examination,
which are the first and usually most important steps in the doctor-patient encounter. It is more than the information that one can glean from the H&P that make them so important. Essential, too, are the bonding and relationship-building that the H&P imparts between the patient and the physician. I do not minimize the importance of new and sophisticated diagnostic tests, such as the CT scan, MRI, and the PET scan. But they should supplement, not replace, a properly planned and carried out H&P, which includes listening to the chest with the stethoscope diaphragm or bell applied directly to the skin.

James B. D. Mark, MD
(AΩA, Vanderbilt University, 1974)
Stanford, California

Be careful of chicken soup

In your recent editorial (“Wrongful death,” Spring 2008, p. 1), you compared homeopathy to chicken soup with respect to their harmlessness. I agree about homeopathy, but I must caution about chicken soup, particularly the kosher type so famously extolled by the late Nancy Caroline in her now classic article.1 Chicken soup prepared from chickens according to Jewish dietary laws (popular even among non-Jews) can often be deadly for patients with congestive heart failure because of its extraordinarily high salt content. Those who work in hospitals serving an elderly Jewish population have long been aware of the epemics of pulmonary edema following Passover and other Jewish holidays. Over fifty years ago the cardiologist Dr. Bruno Kisch published data showing that the salt content of koshered meat can be reduced to its basic level by three successive half-hour soaks in warm water.2 This information has been of great assistance to a number of my patients who had previously suffered from recurrent attacks of pulmonary edema induced by chicken soup.

References
Shimon Glick, MD
(AΩA, SUNY Downstate, 1954)
Beer-Sheva, Israel

Health care reform

I don’t know if it is even a consideration for Alpha Omega Alpha, through The Pharos, to put forth a request for proposals for health care reform. This country is in desperate need of a comprehensive Flexner-type report involving cradle-to-grave medicine rather than just the educational aspect. This could be divided into various components such as, but not limited to, medical school prerequisites and admission process, medical school curriculum, medical school indebtedness, postgraduate training, regulation of medical practice, liability issues/defensive medicine, payment and funding issues, competency, paraprofessional involvement, etc. The intellectual prowess and lifelong commitment of Alpha Omega Alpha members rendering opinion on various aspects of our medical system that need to be addressed and rectified may help to extract ourselves from the morass in which our health care system is bogged. It might be that a compilation of these essays could even serve as a basis for reform and perhaps even have some funding, given that CMS is willing to pay for “quality” advice from outside consultants.

A combination of legal threats, regulatory obligations, payment schemes, and, paradoxically, technological innovation, has led to “medical care” beyond recognition of what had constituted reasonable and customary in the past. As a result, in the United States, health care has deteriorated to a point of general mediocrity while simultaneously generating costs to a point of bankruptcy. As current leadership both politically and in medicine has been unable to effect more than band-aid changes to the system, perhaps AΩA can at least begin a working model for desirable change.

Henri R. Carter, MD, FACS
(AΩA, University of Arizona, 1981)
Yuma, Arizona

Physician-statesmen

We enjoyed reading the excellent Pharos article by Davidson and Dantas (Summer 2008, pp. 4–10) on three-term U.S. Senator Royal S. Copeland, MD (1923–1938), who served for a decade as dean of New York Homeopathic Medical College (1908–1918). His work marks him as one of the top three of “physician-statesmen” in U.S. Senate history for spearheading the landmark and enduring Food, Drug, and Cosmetic Act of 1938. We are in favor of the idea that being a medical school academician might qualify one for high elective office and hope Copeland’s biography will inspire American medical school leaders to consider this option, as the United States might be enhanced by physicians joining lawyers in running our country. However, we note that this essay avers that NYHMC remained operational only until 1938. In fact, its name was altered slightly in 1938 by dropping “homœopathic,” but it continues vigorous and vibrant to this day as New York Medical College, along with the other four surviving...
homeopathic-oriented medical schools: Boston University, the University of Michigan, the University of Iowa, and Hahnemann Medical College (since 2002 Drexel University College of Medicine) in Philadelphia, all committed to allopathic medicine but proud of their history when medicine was in a different stage of development.

Robert A. Schwartz, MD, MPH (AΩA, New York Medical College, 1974) Councilor, UNDMJ-New Jersey Medical School Newark, New Jersey

Karl P. Adler, MD (AΩA, Georgetown University, 1966) President and CEO, New York Medical College New York, New York

James Harvey Young and medical education

I read Donald Marcus’s article “James Harvey Young, PhD (1915–2006): Historian of Medical Quackery” (Summer 2008, pp. 16–21) with delight. The content was good but the memories were priceless. Harvey Young was faculty advisor for my college honors thesis. Visions of the then well-worn Emory University Department of History building complete with Dr. Young’s dusty office stacked to the eaves with papers, books, and patent medicine bottles—empty as I recall—came back to me. I can see his generous mutton-chop sideburns and remember the calm guidance so needed by his charge.

As luck would have it, about a week before this issue of The Pharos arrived my wife unearthed my old thesis. Its title was “Medical School Curricula: The Second Revolution, 1952–1972.” The work was a description of a period of flux in medical education. What was then Western Reserve University began to rethink the basics of medical education, striving to turn med school into a “graduate school experience.” Here is the first paragraph of the paper.

In 1953 the Council of Medical Education of the American Medical Association surveyed the curricula of the medical schools then in operation. They found the first year predominantly filled with courses in anatomy, biochemistry, and physiology taught by the respective departments. The second year was essentially an extension of the first, with pathology, pharmacology, bacteriology, physical diagnosis, and clinical laboratory instruction taught in the same way. The sophomore year was intended to be transition between the basic sciences of the first part of the curriculum and the later clinical instruction; but at almost every school, the first two years centered on long lecture sessions, grading was on an A through F basis with many schools rank ordering students to heighten competition, and the rigid “lockstep” schedule of courses did not allow students to assume a hand in their own education.

Re-reading this paragraph leaves me with at least two questions. First, wouldn’t it have been great to have had a word processor in college? Second, if I were a college student now writing a similar thesis, would my word processor produce an opening paragraph significantly different from what was written in 1973?

Frederick E. Turton, MD, MBA, FACP (AΩA, Emory University, 1976) Sarasota, Florida

What Kind of Guy?

“He’s a bow tie kind of guy,” I heard her say, while waiting in a crowd. “I am a bow tie kind of guy,” I thought, then wondered what that meant.

It was not the color of the tie that mattered, nor the pattern of the silk. Was it the Windsor knot, that hangman’s noose around the neck, the butterfly so much lighter? The choice was not comfort—then practicality?

I was always needing to tuck the tie inside my shirt, for fear of dirtying it at work. That’s why I had worn paisleys in the past.

One day, it just happened—I discovered something about myself. I am a bow tie kind of guy.

Richard Bronson, MD

Dr. Bronson (AΩA, New York University, 1966) is director of Reproductive Endocrinology at Stony Brook University Medical Center. He is a member of the editorial board of The Pharos. His address is: Department of Obstetrics, Gynecology and Reproductive Medicine, SBUMC, Stony Brook, New York 11794-8091. E-mail: richard.bronson@stonybrook.edu.
“Shut up!” said teen-aged Will, and meant
“You’re kidding!” or “No joke!”
He hurt his grandma’s feelings,
Not intending to provoke.

***

For ten years Will and his grandpa
Had visited the world,
And on the phone they talked each night,
Youth and age unfurled.

“You’re seventeen and don’t need me
To see through manhood’s lens,
And I will understand if you
Would rather be with friends.

We’ll still connect from time to time
And find a way to chat.”

“Shut up!” said teen-aged Will, and meant
He’d heard enough of that.

Melvyn H. Schreiber, MD

Dr. Schreiber (AΩΑ, University of Texas Medical Branch, Galveston, 1954) is the Robert N. Cooley Distinguished Professor of Radiology at the University of Texas Medical Branch, Galveston. His address is: The University of Texas Medical Branch at Galveston, Department of Radiology, Galveston, Texas 77555-0709. E-mail: mschreib@utmb.edu.

Illustration by Jim McGuinness
Winners of the 2008 Pharos Editor’s Prize

The 2008 Pharos Editor’s prize has been awarded to four authors: Andrew Bomback, MD (AΩA, Columbia University, 2003) for his collaboration with Dr. Philip J. Klemmer on “Jack London’s ‘chronic interstitial nephritis,’” (Winter 2008, pp. 26–30); Andrew J. Schoenfeld, MD (AΩA, Northeastern Ohio Universities, 2003), for his historical fiction piece, “The private remonstrance of Doctor Botkin, or Pharaoh’s Physician” (Summer 2008, pp. 22–24); Mani Mokalla, MD (AΩA, University of Minnesota, 2001) for his personal essay, “Searching for God below the vocal cords” (Winter 2008, pp. 34–35); and Madeline Leong, MD/PhD candidate at Duke University, for her essay, “First month on the wards” (Spring 2008, pp. 23–25).

Dr. Bomback writes: I am currently the Doc J. Thurston III Fellow at the University of North Carolina at Chapel Hill. I have been writing fiction for the last decade. My short stories have appeared in a number of literary magazines, and my first novel, You’re Too Wonderful to Die, was published in 2007. My senior author, Philip J. Klemmer, became interested in Jack London’s life after visiting the Huntington Library in San Marino, California. He suggested that I look into London’s mysterious death from renal failure given my dual interests in fiction and nephrology. London’s writing provided a fantastically detailed patient history, and Dr. Klemmer’s expertise helped whittle down the differential diagnosis to the suspected case of mercury nephrotoxicity.

Dr. Schoenfeld says of himself: Born and raised in New York City, I have been writing creative fiction since I was seven. I am an Honors graduate of Kent State University, where I studied both history and creative writing. My interests include Eastern European history, military history, Jewish history, and ethno-religious cultural mythology. I have published widely in the fields of orthopaedics and Jewish history. Besides my involvement in academic research, I combine my historical and literary interests into works of fiction. My first novel, The Place of the Skull, which touches on many of the same topics addressed in “The Private Remonstrance of Doctor Botkin,” was released from Borders Publishing this fall. I am currently a fellow in spine surgery at Harvard Medical School.

Dr. Mokalla says: I serve as a pediatric hospitalist at Andrew Bomback, MD Andrew J. Schoenfeld, MD
Minneapolis Children’s Hospital. I am Iranian and married to a lovely Irish-American woman. We have two wonderful children. My life is rooted in a culture rich with storytelling. My parents are well established authors, and reading and writing has been a cornerstone of my life. Living and studying in different cultures has strengthened this foundation. Medicine provides unique and ample opportunities for sharing stories. By sharing stories from my work I hope to convey the wide spectrum of human behavior in times of stress, and the ideals common to all.

Ms. Leong tells us: I am half-Chinese, half-Jewish and grew up in New Mexico. When I was seven, my mother made me keep a journal, and each entry had to be four sentences long. I complied as long as “Hi” and “Bye” counted as sentences. Then I started writing. It took me a long time to find what stories matter, which ones bring you outside yourself. When I wrote “First Month,” I felt overwhelmed by my first experiences in the hospital. And yet, the kindness I saw in patients and doctors alike comforted me. Looking back, I think how lucky I was.

**Announcing the 2009 Pharos Editor’s Prize**

For the twelfth year, Alpha Omega Alpha is pleased to offer up to four prizes of $1000, $750, $500, and $250 to the author(s) of original nonfiction manuscripts published in *The Pharos*. Authors need not be members of AΩA, but must be forty-five years old or younger as of December of the calendar year in which the paper is submitted. To be competitive for a prize, the paper submitted must be in the standard format of *The Pharos* (see Instructions for Pharos Authors immediately following), and not published previously in any form. Content should be in the areas emphasized by *The Pharos*—medical history and biography, ethics, professional issues, and personal essays. Essays submitted to the AΩA Helen H. Glaser Student Essay competition are not eligible for this prize, nor are previous winners of the Editor’s Prize eligible to compete. All manuscripts are subject to review of Pharos editorial board members. Judging will be on the basis of style and composition, originality, scholarship, and interest and relevance to medicine.

**Instructions for Pharos authors**

We welcome material that addresses scholarly and non-technical topics in medicine and public health such as history, biography, health services research, ethics, education, and social issues. Poetry is welcome, as well as photograph/poetry combinations. Photography and art may also be submitted. Scholarly fiction is accepted. All submissions
are subject to editorial board review. Contributors need not be members of Alpha Omega Alpha. Papers by medical students and residents are particularly welcome.

Submissions must meet the following criteria:

1. Submissions may not have been published elsewhere or be under review by another journal.

2. Essays should have a maximum of 15 pages (approximately 5000 words), and be submitted in 12-point type, double-spaced, with one-inch margins. They should be accompanied by a covering letter, a 150-word abstract, and a title page with the word count (or page count), return address, and e-mail address. Papers exceeding the page count noted will be returned to the author. References should not exceed 20 unique items (see below).

3. Poems or photograph/poetry combinations should be in 12-point type, with one-inch margins, with the author’s name, address, and e-mail address on the first page.

4. Send your submissions to Edward D. Harris, Jr. M.D., Editor of The Pharos, 525 Middlefield Road, Suite 130, Menlo Park, California 94025. You may also e-mail them to: postmaster@alphaomegaalpha.org.

5. After peer review, comments on the manuscript will be sent to the author along with an editorial decision. Every attempt is made to complete preliminary reviews within six weeks.

6. The editors of The Pharos will edit all manuscripts that are accepted for publication for style, usage, relevance, felicity, and grace of expression, and may provide appropriate illustrative material. Authors should not purchase illustrative material because the editors cannot guarantee that it will be used.

7. In accordance with revised copyright laws, each contributor will need to sign an Author’s Agreement, which will be sent with the edited galleys. Information on copyright ownership and re-publication of articles is detailed in the Author’s Agreement.

Reference information

Authors are responsible for the accuracy of citations and quotations in their papers. Once a manuscript has been accepted for publication, therefore, the author will be required to provide photocopies of all direct quotations from the primary source material, indicating page numbers. (Please mark the quoted material on the photocopies with highlighter.) In addition, the editors will require photocopies of all references: the title page and copyright pages of all books cited, the first and last pages of book chapters cited, and the first and last pages of journal articles cited, as well as the Table of Contents of the particular issue of the journal in which the cited article appeared. The foregoing items will be used to verify the accuracy of the quotations in the text and the references cited, and to correct any errors or omissions. The photocopies will not be returned.

References should be double-spaced, numbered consecutively in the text, and cited at the end in the following standard form:

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**Book Chapter**


Each reference should be listed in the bibliography only once, with multiple uses of a single reference citing the same bibliography reference number. Examples are available at our web site: www.alphaomegaalpha.org.

Citation of web sites as references is discouraged unless a site is the single source of the information in question or has official or academic credentials. Examples of such sites are official government web pages such as that of the National Institutes of Health. Encyclopedia sites such as Britannica.com are not primary references.

**Leaders in American Medicine**

In 1967, as a result of a generous gift from Drs. David E. and Beatrice C. Seegal, Alpha Omega Alpha initiated a program of one-hour videotapes featuring interviews with distinguished American physicians and medical scientists. The collection has been donated to the National Library of Medicine, which will maintain it for permanent use by scholars visiting the library. Videotapes continue to be available for loan from AΩA. A listing of available tapes can be found on our web site: www.alphaomegaalpha.org, or by contacting Ms. Debbie Lancaster at d.lancaster@alphaomegaalpha.org or (650) 329-0291. Please also contact Ms. Lancaster to borrow tapes. Those wishing to purchase copies may do so by contacting Ms. Nancy Dosch, manager, Historical Audiovisuals, History of Medicine, Building 38, Room 1E-21, 8600 Rockville Pike, Bethesda, Maryland 20891. Telephone (301) 496-8818, e-mail nancy_dosch@nlm.nih.gov.
Welcome to ΑΩΑ

To the tune of “La Donna e Mobile”
from the opera Rigoletto by Giuseppe Verdi

Verse I
Welcome to ΑΩΑ
You’ve made it all the way
You will not go astray
Because you’re A-OK

It was just yesterday
That you entered the entryway
To med school’s alleyway
For your first study day

You are now ΑΩΑ
To you a big hooray
And let us all say
Drink Chardonnay

Aha, aha, drink Chardonnay
Ah . . . to ΑΩΑ!

Verse II
Soon you will graduate
And likely relocate
And start to activate
A license to medicate

Remember your identity
With joy and humility
Work with tenacity
And keep your virtuosity

You are now ΑΩΑ
To you a big hooray
And let us all say…
Drink Chardonnay

Aha, aha, drink Chardonnay
Ah . . . to ΑΩΑ!!

Daniel V. Schidlow, MD

Dr. Schidlow (ΑΩΑ, Drexel University, 2004) is professor and chair of the Department of Pediatrics and Senior Associate Dean of Drexel University College of Medicine. He sang this song at the April 17, 2007, ΑΩΑ induction dinner there. His address is: St. Christopher’s Hospital for Children, Erie Avenue at Front Street, Philadelphia, Pennsylvania 19134-1095. E-mail: daniel.schidlow@drexelmed.edu.
This listing is current as of December 11, 2008

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Faculty: Janny Darone Ard, Omar Hameed
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The Chicago Medical School at Rosalind Franklin University of Medicine and Science—Delta Illinois

Faculty: Marc Steven Abel, John Tomkowiak
House staff: Hari Raj Paudel

Loyola University Chicago Stritch School of Medicine—Epsilon Illinois

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House staff: Daniel Hump Falkerson, Joshua Wesley Garrett, Ben M Tsai

IOWA

University of Iowa Roy J and Lucille A Carver College of Medicine—Alpha Iowa

Students: Michael Lee Adix, Mazen Saadi Albaghdadi, Amanis Ardis, Michael Lonnie Bullard, Chiraag Dharia, Henry Richard Diggelmann, John Edwards, Elizabeth Mary Grace, Lindsay Anne Griffith, Leah Maxwell Habib, Jonathan Heath, Amanda Jean Hohmann, Brett William Hronek, Bridget Kamen, Lindsey Elizabeth Klocke, Stephanie Anne Leeson, Anne Meredith Lewis, Bethany Kirk Helms Lewis, Kathryn Elise Miller, Jason Alan Patterson, Benjamin Andrew Paulson, Thomas Alan Pietras, Larissa Marie Pinney, Anne Renze, Rachael Raelynn Rikcersen, Dan Mobsen Shivapour, Neil James Sink, Jamie Jane Vourmey, Derek Zborne
Alumni: Steven Schurz
Faculty: Richard Le Blond

KANSAS

University of Kansas School of Medicine—Alpha Kansas

Students: Lindsay Elise Abbott, Emily Anne Blankenship, Josiah D Brinkley, Jason A Cheremi, Nicolae E Donovely, Brian MacNeille Evertiz, Emily MW Hurty, Bryce Adam Hoffman, Kate S Jennings, Landon M Johnson, Megan Louise Krause, MyChi Han Le, Abby J Loch, Leonel Martinez, Katherine J Moore, Jill K Onesti, Lindsey Leigh Saint, Andrew B Schlacht, Seth H Sheldon, Casey L Smith, Jennifer Ann Spiegel, Kevan C Stanton, Urvashi Thomas Stephanopoulous, Joella E Wilson
Alumni: Robert P Moser
Faculty: J Brantley Thrasrer
House staff: Abebe Mulugeta Abebe, Steven William Bormann

KENTUCKY

University of Louisville School of Medicine—Alpha Kentucky

Alumni: Richard Dale Hurt, James Frederick Silliman
Faculty: John Joseph Buchino, Vinay Puri
House staff: John M Draus, Ryan Thomas Hurt, Gena Napier
University of Kentucky College of Medicine—Beta Kentucky
Students: Arthur W Baker, Sandhya Bondada, Barrett W Brown, Leigh Anne Hsokins, Alyssa Ashley Hunter, Pradeep Saigopal Mettu, Megan Murphyee, Meghan Hennessy Nadeau, Michael T Newcomb, Jennifer Rene Olges, Gary Travis Patterson, Amanda Elizabeth Smith, Robert Todd Sweeney, Sarah Collier Thornton, William Alexander Wilson, Melissa May Yingling, Kristine Ziemb
Faculty: Nirmala Desai, Chester Darell Jennings
House staff: Nicolas Ajayk, Kara O’Brien

LEBANON

American University of Beirut School of Medicine—Alpha Lebanon

Faculty: Anwar Nasser
House staff: Randa Mustafa Al Barazi

LOUISIANA

Tulane University School of Medicine—Alpha Louisiana

Louisiana State University School of Medicine in New Orleans—Beta Louisiana
Alumni: Mario A Calonje, Ellis Ralph Lupin
Faculty: John Patrick Hunt, Giovanni Lorusso
House staff: Travis Dotson, Stacey J Holman, Daniel S Hsi
Louisiana State University School of Medicine in Shreveport—Gamma Louisiana
Students: Tyler Sean Auchstizz, Amber Cooper Bazler, Christopher Joseph Beck, Kyle Bailey Bruyninckx, Elena Mitkevicus Campbell, Amber N Cockburn, Britni Fabacher Hebert, Stuart Craig Hebert, Lainie Joftion Jorns, April Marie Landry, Tanja Jordan Minova-Foster, Timothy Patrick Moran, Elizabeth JA Waler, Emily Jane Zerwas, Shihao Zhang
House staff: Jason Scott Mizell

MARYLAND

Johns Hopkins University School of Medicine—Alpha Maryland
Students: Hannah Haruko Alphs, Mark Magdi Awad, Christopher John Brady, John Peter Campbell, Han-Ying Peggy Chang, Lisa Ellen Clattenburg, Jennifer Warner Dharmani, David Wesley Dowdy, Steven Jeffrey Elades, Allison Ruth Larson, Corinna Josephine Moore, Afshan Amin Nuni, Shantu Nundy, Romina Marimia Ma Wing Shan Wahal, Gina Louise Westhoff, Ahlue Shueng Yao, Ami Mozafari Zanami
Alumni: Theresa Ann Barry Shapiro, Eileen PG Vining
Faculty: Thomas E Finucane, Gabor Kelen
House staff: Christopher James Barreiro, Oluwaseun Omotomilola Falade, Robert Eugene Hoersch
University of Maryland School of Medicine—Beta Maryland
Faculty: Maidj E Cina, Andrea Wong
House staff: Robert J Habicht, Michael T McCurdy, Mayur Narayan

Uniformed Services University of the Health Sciences F Edward Hebert School of Medicine—Gamma Maryland
Students: Daniel J Adams, William Roller, Robert O Brady, Steven H Craig, Michael EA Cunningham, Paul M Drayna, Cicely Anne Dye, Dellosa J Erickson, Brent A Feldt, Brian M Fitzgerald, Philip M Flatau, Anthony A Giberman, Kelly L Groom, Nicole M Hsu, Katherine M Ivey, Andrew J Kuschnerait, Katherine M Kuster, Gary L Leguay, Caroline Ko Maros, Andrew D McLaughlin, Sandra S McLaughlin, Nicholas Ott, Marit Connor Peterson, Lindsey B Rath, Jeanmarie B Rey, Kristina R Rustad, Kathleen M Sarber
Alumni: John H Farley, Tandy Garth Olsen
Faculty: Richard M Conran, Patrick G O’Malley
House staff: Daniel William Carlson, Jess D Edison, Alyssa C Perroy
MASSACHUSETTS
Tufts University School of Medicine—Beta Massachusetts
Alumni: Howard R Mattsson, Kenneth B Simons
Faculty: David B McAneny
House staff: Philip Alexander Cohen, Jens Thiele, Edwin Tigernerash Zishiri
University of Massachusetts Medical School—Delta Massachusetts Students: Alexandra S Bailey, Rachael Blake, Stephanie Carter, Kelly Holland, Andrea Klayman, Amanda Kolb, Noah Kolb, Candice McElroy, Mark McKeen, Vilas Patwardhan, Jennifer Rosenberg, Magdalena Slosar, Michael Sylvia, Hilary Womble
Alumni: Joseph DiFranza, Arnold Freedman
Faculty: Richard Irwin, Phillip Zamore
House staff: Sanjeev Negle, Darshana Patel, Heidi Smith
MICHIGAN
University of Michigan Medical School—Alpha Michigan Students: Kristen Elise Adams, Sudha Rani Amarnath, Andria Lynn Amendt, Alison Marie Bates, Timothy Bodnar, Emily Kathleen Damuth, Kara D Gaetke, Steven Adam Giuseffi, Jonathan Greene, Steven Christopher Gross, Tannaz Guivarchan, Daniel Reed Jensen, Christopher Warren Jones, Joel Christopher Joyce, Jyoti S Kandlikar, Michael Krug, Robbi Ann Kuiper, Milton Thomas Michael Little, Jeffrey Philip Mako, Kevin Brett Messacar, Elizabeth Rose Meza, Priya Vijay Mhatre, Daeoncon Achilles Michael Nicolaou, Michael William Rowley, Eric W Schneider, Derrick Ying Sao, Miller Hayden Smith, Kathryn Angela Vok, Deborah Jean Weener, Cristina Y Weng
Faculty: Valerie P Castle, James O Wooliscroft
Wayne State University School of Medicine—Beta Michigan Students: Andrea Lynne Barbieri, Kurt David Bernacki, Matthew Bernbeck, Kathy Borovicka, Steven Daniel Davey, David Steven Demos, Stephanie Diamond, Jason Domina, Michelle Figueroa, Gary William Gallagher, Adrian Gasperut, Bianca Gruber, Elizabeth Corey Gwinn, Erin Hendriks, Zachariah Hicks, Ronald Huang, Louis Joseph, Anastasia Kay Ketko, Paul Hyon-Uk Kim, Jonathan Edgar Kivel, Michael Kopec, Nicholas Gregg Kujala, Angela C Liang, Adam Michael Lubert, Anuk Mehta, Andrew Kent Moriarit, Brian Mott, Laura Ann Owczarek, Manish Navinital Patel, Andrew James Powers, Isaac Peterson Reeve, Crystal M Ritsema, John David Schwartz, Salolin Shao, Christopher Alan Smith, Kelly Ann Smith, Melissa J Sundberg, Ushiree Trivedi, Gwendolyn Rose Zirngibl
Alumni: Renee D Walnut
Faculty: Chokechai Rongaviit
House staff: Gregory Norwood
Alumni: Gregory Lewis Barkley, Glenn W Jelks
Faculty: Adewusi Benedicta Olomu, Vincent J WinklerPrins
House staff: Ayodeji Johnson Ajibola, Jeffery L Chamberlain, Shahab Chandra
MINNESOTA
MISSISSIPPI
University of Mississippi School of Medicine—Alpha Mississippi Students: William Bacon Bell, Marcus Daniel Biggers, Kathleen Luise Brown, Garth Seamus Campbell, Jessica Larsen Gullung, Angela Devi Gupta, David Paxton Jones, Jason Kyle Jones, Laura Marie Robinson, David Robert Sayers, James Byron Shipp, Robert Kyle Thompson
MISSOURI
Washington University in St Louis School of Medicine—Alpha Missouri Students: Jessica Duan, Jeremy Etzkorn, Margaret Garin, Cheryl Gray, James Hudspeth, Julia Anne Kauffmann, Andrew King, Kory Lavine, Kathleen McKeon, Eric Nordsee, Ilana Rosman, Shadou Bounhaina, Sunitha Sequeira, Annamari Seets, Ashram Shethban, Devon Caday Snow, Steven Sperry, Kristin VanderPloeg, Sunitha Verma, Olivia N Windon
Alumni: Gary A Ratkin, Robert A Swarn
Faculty: Arnold Ballock, Arie Perry
House staff: Ryan Courtney Fields, Andrew Ruth Hagemann, Julie Kristina Schwarz
Saint Louis University School of Medicine—Beta Missouri Students: John Nathan Allan, Andrew Robert Barina, Cory Bethmann, Eric A Bloemer, Sofia Begum Chaudhry, Kristin Michelle Covert, Brian Wesley Cross, Austin Jay Crow, Angela Marie DeCarlo-Meatham, Matthew D Dilioso, Sara I Franzan, Olivia Kathryn Giddings, Dana Anne Hartnagel, Estebes Akira Hernandez, Lindsey Allison Herrel, Sonya Jagwani, Gregory Patrick McMellon, Anthony Alan Nuaru, William Simon Clarke Payne, Denise Renee Pounds, Jacob McCabe Pounds, Marsha SK Reuther, Allison Lynn Sterner, Colin Michael Thompson, Joanna Elaine Thompson, Bradley Walker, Anne Marie Woebbel
University of Missouri—Columbia School of Medicine—Gamma Missouri Students: Brenon L. Abernathie, Joel Robert Brockmeyer, Katharine Ann Connolly, Sarah Elizabeth Driver, Anne Christine Harris, Benjamin Kinnear, Marina Litvin, Benjamin Mark Martin, Shannon Kathleen Martin, Scott A Norris, Jason Ryan Pettus, Dominic Emmanuel Sanford, Lindsay R Shotts, Blair David Westerly, LeAnna Renee Witt
Alumni: Girish Mishra, James R Sowers
Faculty: Bert Bachrach, Ellis Andrew Ingram
House staff: Mark Nelson Beards, Atif Ijaz
University of Missouri—Kansas City School of Medicine—Delta Missouri Students: Michael Haesam Amin, Jacob Daniel AuBuchon, Dawn Christopher Charles, Steven Ross Cohen, Christopher M Fox, Neil Maheshchandra Gheewala, Jessica Nicole Gillespie, Rachel Marie Griggs, Lauren M Ludwig, Jessica Lynn McAmmon, Surya Narayana Mundhurs, Jessica L Reddoch, Michael Gregory Rodriguez, Nicholas Ryan Wanso
Alumni: Jeffrey James Peterson
Faculty: Jean R Hausheer
House staff: Gretchen Marie Dickson, Angela Leigh Myers, Madhu Babu Narra
NEBRASKA
Alumni: Ray E Hershberger, Steven Phillip Wengel
Faculty: Leslie J Helluscob, Robens J Fames
House staff: Douglas Francis Niemann, Eric Thomas Rush, Michael David Sather
Creighton University School of Medicine—Beta Nebraska Students: Elizabeth Durand Adams, Mary Anne Andrews, Scott Michael Atay, Erin Marie Bruno, Heathie Anne Dobbs, Gary Peter Graham, Travis Edward Grotta, Jason Patrick Haas, Laura Kristine Martin, Hoi V Nguyen, Quyen Trung Nguyen, Margaret Rojkynak, Marilee Michelle Simons, Joshua Spendlove, Andrew Christian Stevens, Morgan Leigh Swank, Sandra Swedan, Chad Thorson, Jacob Chris Walter, Casey Weter
Alumni: Alfred D Fleming, Gary S Francis
Faculty: Robert Charles Allen, Martin Goldman
House staff: Nitin Garg, Jacob Sam Koruth, Saeed Kamran Shafi
NEVADA
University of Nevada School of Medicine—Alpha Nevada Students: William Thomas Edwards, Aicha Maria Huff, Kyle Nathaniel Klingler, Suzanne Larson, Chantal Reya, Justin Bradley Smith, Whayne Waldroup, Ryanne Waltcher, Nancy Wong
Faculty: Samuel D Parks
New members

NEW HAMPSHIRE
Dartmouth Medical School—Alpha New Hampshire
Students: Nathan Carville, Elizabeth Lynn Fingen, Jennifer M Frese, Jessica H Hayward, Joan SL Hier, Heidi Ladd Keup, Tivon Isaac Sidersky, Sharon Anne Silveira, iPedro Teixeira
Alumni: Stephen Atwood, Mark Northfield
Faculty: Bruce Wayne Andrus, Lionel Lewis
House staff: Diana L Fitzpatrick, John Maynard Levenick, D Joshua Mancini

NEW JERSEY
University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School—Alpha New Jersey
Students: Tara Barbatal, Soniia Bhutia, Jaclyn Renee Brunner, Anna Chen, Timothy Scott Fallon, Katherine Marie Fox, Eric Heckman, Dana Joy Herzigel, Thomas J Hopkins, Sangita Ramalingam Iyer, Kathryn Marie Kent, Christin Kim, Sandra Anne Kopp, Christopher Steven Manfred, Jaclyn McKinstry, Michael Brian Murphy, Michael N Nakashian, George Patounakis, Gabriel Rama, Brian William Roberts, Eshal Sarlin, Rehan Syed Shamim, Rachel Beth Sotsky, Adam Brett Strobl, Drew Steven Weber, Taylor Douglas White, Brian Seth Winters, Lauren Elizabeth Wong, Jennifer Caroline Yu
Alumni: Jeffrey Craig Brenner
Faculty: Robert Joseph Risimini
House staff: Jillian Grace Corbett, Ralph Ibrahim Kanaan

UMDNJ—New Jersey Medical School—Beta New Jersey
Students: Nuruem Yogeis Baxi, Sonia Bellia, 12on Beninato, Eric Adam Breitbath, Sean Stephen Cinillo, Pascal Scemaema de Gialluy, Neil Francis Fernandes, Serena Fernandez, Alex Seth Galfan, Christian Sander Geannette, Samantha Paige Herman, Gina Hong, Mahim Kapoor, Marissa Anne Kellogg, Emily Kott, Jeremy Eric Mengion, Kapila V Paghdal, Alyssa Maria Parian, Heather Loryn Platt, Sara Sakamuri, David Jung Seto, Ryan Michael St Clair, Raia Taune
Alumni: Rini Susan Abraham, Frederick F Buechel, John Chae
Faculty: William E Halperin
House staff: Brian Eric Benson, Mauessaw Senthil

NEW MEXICO
University of New Mexico School of Medicine—Alpha New Mexico
Students: Eva Angeli, Katherine Sue Callahan, Leah Enright, Michaela Haney, Jonas Hines, Mary Helen Laughlin, Allison Anne Legler, Kristen Livingstone, Katrina Peariso, Sally Anne Vender, Donald Wenner, Zachary Charles Wilson
House staff: Christopher Charles Abbott, Spencer Paul Barney, Mohamed O Othman

NEW YORK
Columbia University College of Physicians and Surgeons—Alpha New York
Students: Lisa Marie Bebelle, Eric Michael Black, Leif-Born Bohman, Jennifer Tyene Chang, Jason William Harper, Kim Jain, Christopher Paul Kellner, Kara Anne Kerscher, Daniela Justine Lamas, Susan Elizabeth Mackie, Josephine Marie Mauro, Margaret McCarthy, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva, Mary Rebecca Mulcare, Elizabeth Christine Oelsner, Adedamola Ogunti, Adelofalami Morenikeji Oni, Carlton Prickett, Jessica Anne Sims, Sarah Grace Sliva
Alumni: Richard Daines
Faculty: Omebue Robie-Adjei
State University of New York, Upstate Medical University, College of Medicine—Gama New York
Alumni: Ruth Helen Hart, Howard M Simon
Faculty: Elinor Spring-Mills, Anne Rose Sveen
House staff: Nicholas John Bennett, Sean Edwin Button, Orson Dy Go

New York University School of Medicine—Delta New York
Alumni: Carolyn barley Britton
Faculty: Court B Cutting
University at Buffalo, School of Medicine and Biomedical Sciences, State University of New York—Epsilon New York
Students: Megan K Barnhart, Kelly Devine Berchou, Adam R Brod, Margherita Bruni, Jennifer Erica Emmett Costello, Jillian J Delmont, Sameed Madhav Deshmukh, Amy Beth Devlin, Katherine Dunham, Matthew Michael Fernaays, Alan John Hsu, Mariam Imanzade, Victoria Anna Lillig, Andrew Martino, Benjamin P McGreavy, Joel E Moore, Francis James O'Connell, Jenna Lynn O'Neill, Jennifer Helen Paul, Crawler, Ysis, 1A Akeetea-Weaver, Alan F Vainb, Justin Mark Zhebrezny
Faculty: Alexander C Brownwe, Michael E Duffy
University of Rochester School of Medicine and Dentistry—Zeta New York
Students: Matthew Davis, Anne Bartlett Fender, Tracy Elizabeth Fuller, Marjorie Sophia Glofo, Kto Ishida, Matteo Carlos LoPiccolo, Brooke Ellen Miller, Sydney Butler Montesi, Brian Harrod Morrow, Maryann Katherine Overland, Tracey Ann Patsone, Pooja Rao, Deanne Robinson, Nathapah Songdej, Tara Wenger
Alumni: Randy Nathan Rosier
Faculty: Cheryl Kojdo
House staff: Andrew James McGarry, Rona Lin Norelius
State University of New York, Downstate Medical Center College of Medicine—Eta New York
Students: Erika Bratausa, 1arles Chang, Karmina Karman Choi, Anne Elisa Cossu, Alexander Filatov, Michael A Kadoch, David Scott Ketner, Yana Kleyer, Michelle Nicole Korriban, Michelle Han Lee, Brian Liebler, Gregory Alex Manenti, Edward Robert Mathney, Megan Elizabeth Miller, Jong Hs Park, Mital Patel, Derek Daniel Prabharasuth, Matthew G Reid, Lisa Silver Richman, Lauren Ruth Schneider, Michael John Seibert, Zohar Shamash, Brent Shepherd, Michael Shy, Inna Shkyevsky, Matthew Lawrence Smith, Sheera Thomas, Glynnatia Elaine Trotman, Anthony James Visionsim, Pramod Bahu Voleti, Charles Wang, Michael J Winfield, Kristina Wittig, Jeahad Zohny
Alumni: Barbara Elaine Cammer Paris, Leslie Anthony Saint-Louis
Faculty: Mary Ann Banerji, Edward F Smith
House staff: Nancy Blake, Pooja Malhotra, Michael Frederick Timoney
Albany Medical College—Theta New York
Alumni: Gary L Gottlieb
Faculty: Dennis P McKenna
House staff: Scott L Lee, Leon Salem, Richard Vincent Schaller
New York Medical College—Iota New York
Alumni: Eric J Feldman, Catherine Butkus Small
Faculty: Leanne Forman, Martha Shelley Grayson
Albert Einstein College of Medicine of Yeshiva University—Kappa New York
Faculty: Chaim Putterman
Mount Sinai School of Medicine of New York University—Lambda New York
Alumni: Michael L Marin, John A Martignetti
Faculty: Eileen Sciglano
House staff: Anna Ula, Philippa Newell, Carlos rio

68

The Pharos/Winter 2009
Stony Brook University Medical Center School of Medicine—Mu New York Students: Thomas Roes, Inderjit Chabra, Alisa Femia, Cecile Aurey Ferrandino, Bella Fradils, Jonathan Gale, Lindsay Jubelt, Courtney Elizabeth Juliano, Yee Cheng Low, Adam Miller, Joshua Russell Olsen, Sabera Pirmohamed, Julie Ann Stein, Elizabeth Weiner Faculty: Stephen Anthony Vitzkan House staff: Fady Michael Kaldas


University of North Carolina at Chapel Hill School of Medicine—Gama North Carolina Students: Alisa Patricia Akler, Shruti Laxmikant Chudasama, Christie Johnson Crockett, Reid W Draeger, James E Ferguson, Lauren H Gainer, Jennifer Bushman Gilner, Lynn Jackson Howie, Michael Hromadka, Sarah Broom Hubbell, Margaret E Jackson, Rebecca Irene Kalman, Alison Keenan, Gregory P Larsen, Chad Michael McCall, Andrew McWilliams, Caleb Evans Pinoe, Nell Brock Pollard, Adam J Frogum Roise, Robert E Sapp, Lucy Marie Schenkenbark, Taylor James Stone, Gregory Tayroux, Catherine Elizabeth Varner, Tilley Jenkins Vogel, Katherine Davis Westreich, James Robert Young, Lindsay Sallach Young Alumni: Anil Kumar Sood Faculty: Julie Story Byerley, Laurence D Dahners House staff: Alan Cheng, Jason Paul Glotzbach, Bhakti B Paul The Brody School of Medicine at East Carolina University—Delta North Carolina Students: Richard Alan Bloomfield, Brian Christopher Dombory, Adam Dean Houser, Shelby Ann Kaplan, Zachary Philip Kiker, Jeremy Michael Kilburn, Heang Muy Lim, Nicholas Dean Mayes, Joshua Daniel McKinney, Roger Jacob McMurray, David Clinton McNab, Laura Maha Nasrallah

NORTH DAKOTA University of North Dakota School of Medicine and Health Sciences—Alpha North Dakota Students: Allison Jean Clapp, Ryan Miles Clauson, Margaret Kay Cook-Shimanek, Khalin Dendi, Theresa Anne Hegge, Joshua J Knudson, Lindsay Anne Magura, Nicholas Milanovich, Jill Marie Steinele, Megan Besse Wellsh Alumni: L. Michael Mulholland Faculty: Scott Eric Knutson, Mary Ann Sens House staff: Jeffrey Ben Andersen, Laura Ann Berg, Daniel Raymond Padvgett

NOVA SOTICA Dalhousie University Faculty of Medicine—Alpha Nova Scotia Students: Michael W Aucout, John Harverstock, Mary Jamieson, Gavin Langille, Morgan Alexander Langille, Lorine Pelly, Deborah Anne Pink, Derek J Roberts Alumni: Evelyn Deborah Sutton House staff: Patrick JG Feltmate, Brian G Moses

OHIO Case Western Reserve University School of Medicine—Alpha Ohio Students: Lindsay Catherine Burrage, Katarzyna Buzanowska, Sophia Wat-yun Chen, Bryan Randall Costin, Barry M Czeizler, Colleen Anne Foster, Jessica Randa Goldstein, Joanna Krieger Grossman, Jennifer Elizabeth Hagen, Evelyn Morley Hemmingsen, Michelle Miran Kim, Eugene Brent Kirkland, Ethan S Lea, Benjamin Lee, Rachel Benelli Markey, Kelly Ann Morrissey, Haruko Okada, Tehnaw Nawzer Parakh, Matthew Allan Popa, Aleksandra V Rachitskaya, Jacob Gardiner Scott, Aaron Gilman Wightman, Lindsay Bashaw Wilson Faculty: Robert L Haynie, Michael J McFarlane House staff: Theodore Alexander Kung

University of Cincinnati College of Medicine—Beta Ohio Students: Paul Timothy Bunch, Michael Dentler, Blake J Evans, William J Forton, Sarah Elizabeth Fox, Brian Michael Grawe, Joseph Hall, Laurens Imwalle, Gregory Kohls, Robert Brett Lloyd, Andrew D Lund, Lauren Rose Ostling, Brandi Reeves, Justin Stevens, Christopher Tangren, Philip To, Joseph S Turner, Emily Wiebracht Alumni: Barbara Bowman, Tobiah Faculty: Diya F Mutasim House staff: Samir Rama Belagaje, Jared Travis Hagaman


OREGON Oregon Health & Science University School of Medicine—Alpha Oregon Students: Carya Entine Avery, Daniel Ivan Avery, Erin Nicole Berry-Bibe, Patricia M Frew, Kristin J Herring, Erick Johnsonson Dunlop, Katie I Lemieux, Jesse Muddlen, Marc Montanaro, Jarrad Scarlett, Kelly Ann Sweerus, Laura Marie Webb, Jessica Anne Yu Faculty: Robert L Potter, Charles Richard Thomas House staff: Michelle Rose Ann Shaw

PENNSYLVANIA Jefferson Medical College of Thomas Jefferson University—Alpha Pennsylvania Students: Eleanor Ruth Ainslie, Christopher Velasquez Almario, Laurence Justin Belin, Stephanie Beth Boswell, Justin Samuel Brandt, Leslie Bydren, Jeffrey Clough, Jennifer Leigh Coats, Vincent Quang Dan, Ranvir Dhillon, Sarah Dickinson, Kevin Michael Eanes, Aparna Goel, Craig Thomas Haytmamk, Patricia C Henwood, Kari Horowitz, Sada Hashim Hussain, Lauren Smith Krill, Doriann Lee Lavery, Cynthia...
Sadha Mogali, Jeremy Nelson, Imelda Odibo, Kwame Okeyre-Asante, La-nikuqa Treenae Thomas, Prince Nw Ohomhen, Fonda Delores Webb
Alumni: Nolen L Adams
House staff: Olumuyiwa Abolade Erusurou, Damaris Morenike Olagundoye, Kesha Shunte Robertson

East Tennessee State University James H Quillen College of Medicine—Delta Tennessee
Students: John William Beiddles, Kristin Orr Bresowar, Matthew Melton Cole, Christopher Lewis Cropsey, Jason Allen French, Jennifer Kathryn Jantz, James Richard Layton, Samuel Douglas Richeson, Justin Ray Sigmon, Daniel Scott Smith

TEXAS University of Texas Medical Branch, University of Texas Medical School at Galveston—Alpha Texas
Faculty: Frederick Srujiuei Huang, Gottumukkala Subba Raja
House staff: Lindsay Kay Hilbert, Stephen Paul Lester, Juan Diego Martinez

Baylor College of Medicine—Beta Texas
Faculty: Jennifer Elizabeth Pate
House staff: Yuval Raizen, Wendy Lea Smitherman

University of Texas Southwestern Medical Center at Dallas, Southwestern Medical School—Gamma Texas
Faculty: Robert S Munford, Ferrui E Nwariaku
House staff: Hamed khallal, Allen P Lee, Min Chong Yoo

University of Texas Medical School at Houston—Delta Texas
Alumni: Lisa Y Armitage
Faculty: Patricia M Butler, Giuseppe N Colasurdo
House staff: Yvette S Drake-McLin, Jean I Osewdekwa, James William Suliburk

University of Texas Medical School at San Antonio—Epsilon Texas
Students: Adam Bellginner, Annie Chan, Joshua Adam Delavan, Candice Nicole Dubose, Natalie I DuMont, Rachel Aubrey Hassan, Fernando Alejandro Hernandez, Cara Marie Horny, Melissa S Hu, Sara Ann Jackson, Tyler Scott Jorgensen, Stephanie Anne Lewis, Kristina L Lozano, Tiffany L LeeMillner, Aaron Moon, Brett C Norman, Ilenea Obiageli Onorah, Elizabeth Anne Osborne, David Schmit, Andrew D Shedd, Seema Setha, Weiwen Iviin Shiu, Shaum Sunder Sridharan, Elizabeth Ventura, Andrew Jon Wall, Stephanie Anne Watson, Brian Weatherford, Jennifer M Welch, Dustin Blake Williams, Christopher Beau Willson, Clarence Joseph Wolinski, Rebekah Helen Wright, Shehnaz Aysha Zaman, Syeemon Vasilos Zannikos

Texas Tech University Health Sciences Center School of Medicine—Zeta Texas
Students: Steven E Burgess, Hua Chen, Sarah Elizabeth Cooper, Jonathan Daniel Crews, Cathryn Anne Doughtie, Jason James Ginos, Theodore E Hackl, Benjamin Aaron Htirsch, Allison Lea Hulme, Jennifer Leigh Johnson, Michal Rysik, Joseph Wilson Magley, Rene Alphonse Mai, Ronnie Marie McCann, James A Muns, Kristina Nicole Orey, Malini Patel, Megan Nichole Rivers, Jeremy Matthew Salier, Gregg William Schmedes, Tyler Clayton Street, Angel Sun
Alumni: Lorenz Lutherer, Kellie Flood-Shaffer
Faculty: Ari Halldorson
House staff: Eduardo Rosas Blum, Steven Brooks, Dustin Turner

Texas A&M Health Sciences Center College of Medicine—Eta Texas
Students: Grace Elizabeth Brown, Jessica Lynn Clark, Kristoffer Lee Crawford, David Jeffrey Crockett, Susan Leigh Greenhut, Darci Janell Hansen, Ronald Paul Hobbs, Slade Alan Hodges, Eric Andrew Lenahan, Brad Alan Onhaizer, David Dung Pham, Connie So, Jonathan Martin Williams
Alumni: Robert Emmett Myers
Faculty: Andrejs Eriks Avots-Avotins, Mohsen Shababang
House staff: Marc Eliason, Nicholas Paul Souder, Ethan Joseph Wright

UTAH University of Utah School of Medicine—Alpha Utah
Students: Sidney Baucom, Jade Bringhurst, Cory Carlson, Stephanie W Chen, Ryan C Crasner, Ashley Ellsworth, Nathan David Faulkner, Mark S Hansen, Kyle Hobbs, Matthew James Kolek, Evan Kulbacki, Paul Lambert, Jay Jeffrey Meyer, Jeffrey Muir, Michelle Regnuto, Nicole Wilde

VERMONT University of Vermont College of Medicine—Alpha Vermont
Students: Whitney Noelee Casares, Derek Chase, Sara Elizabeth Delaporta, Kerrin DePeter, Jonathan Strafflin Hall, Colby Halsey, Elizabeth Alden Kreiling Hunt, Carl Behram Kapadia, Caitlin Elizabeth Kennedy, Lee Jae Morse, Shannon Dawn O’Keefe, Glnnar Amin Pothaiwala, Anne Pearce Rowland, Danielle Christina Williams, Carolyn Joo Hyun Yoo
Faculty: Christa M Zehle
House staff: Christopher Michael Sullivan

VIRGINIA University of Virginia School of Medicine—Alpha Virginia
Faculty: Charles McClaskey Frieh
House staff: R Ramesh Singh

Virginia Commonwealth University School of Medicine—Beta Virginia
Alumni: Ralph R Clark
Faculty: John D Roberts, Isaac K Wood
House staff: Claire VanEwemky Chehrazi, Angela Horton, John Charles Kirkham

Eastern Virginia Medical School—Gamma Virginia
Alumni: Silvina M Bocca, Ralph S Northam
Faculty: CW Gowen, Chee Keen Woo
House staff: Amy Page, Gregory Duncan Rushing, Nicole Watring

WASHINGTON University of Washington School of Medicine—Alpha Washington
New members

North, Andrew P. Pace, Callie Nicole Rigg, David Shearer, Ian Slade, Dawn Stanek, Sundrayah N. Stoller, Kathryn Trest, Mark P Van Tighem, Jason Van Winkle, Sadie West
Faculty: Richard William Arnold, Roger Perry Tatum
House staff: Massimo Arcerito, Basak Coruh, Dinah Thyrelei

WES T VIRGINIA

West Virginia University School of Medicine—Alpha West Virginia
Faculty: Hassan H. Ramadan
House staff: Tanya Fancy, Nicholas Ryan Young

Joan C. Edwards School of Medicine at Marshall University—Beta West Virginia
Students: Paul David Fletcher Bailey, Janelle Marie King, Robert Martin Ore, Aaron R. Parry, Susan K. Saunders, Andrew Phillip Stack, Preeti Subbedar, William David Terrell
Faculty: Patricia Jean Kelly, Dilip Nair
House staff: Harry H Guirgis, Benjamin Lee Moosavi, Matthew Earl Simpson

WISCONSIN

University of Wisconsin School of Medicine and Public Health—Alpha Wisconsin
Faculty: Julian H Lombard, James J. Nocton
House staff: Jill M. Bader, Prem Anand Kandiah

Students 2607
Alumni 100
Faculty 166
House staff 219
Total new members 3113

Erica Aitken

this is what you feel you must
when the minutes open up like crackled skin,
blank spaces to fill, the rows of doors
down the long gray halls of hospital wings
spread sheetlike across your days, your future
and you resist reality with all you’ve got
left, which is nothing perfect
nothing is perfect, never was
you’re leaning now in that direction
when you stop nibbling off plastic trays
turn off the IVs, spit pill after pill
scowl at all in white, blue scrub
soft-soled shoes that squeak in the night
the dimming drone of respirators and tvs
Spanish soap operas, courtroom catfights
the glare of emergency room melodramas
with sutured endings, benign little plot twists
where others’ stories unfold as scripts
everyone swallows and enjoys but you
refuse to abide by the popular soundtrack
suckling your Saltines between gum sores
aspirating your way down the road less taken,
cluttered with the bones of your ancestors
this is how you fade away
your filament shivers, quivering out
no longer do you wish to cast a shadow
nor scratch any surface, nor leave any scars

Virginia Aronson

Ms. Aronson lives in Florida. Her e-mail address is: VAcelstia@aol.com.
Today my ophthalmologist, who has been happily married to another
woman for a decade, looked more deeply into my eyes
than any of my lovers has ever looked.
First, he oiled the keyhole of my eye
until it grew so large
that he could tumble right through it. He landed—
plop!—in one of the trapdoored cellars of my face.
Then, armed with candlestick
and with monocle,
he scrutinized that chamber’s contents
until my retina burned
more hotly than the proverbial virgin’s
blushing face. Laid bare for him to see
were the diaphanous garments
worn by my sylphlike blood,
the trailing translucent gowns
whose trains lay all tangled together
in a nexus of scarlet threads. And he saw the alabaster
cup and saucer from which I sipped
Perception, and he approved their shape and size.—

Today, I said, my ophthalmologist
looked in my eyes more deeply than any lover.
But, unlike a lover, he looked in them one-by-one,
just as a shrewd prison-guard would
separate two prisoners
whom he suspected of being in cahoots
so that he could interrogate them more fruitfully.
And if you’d asked him later that morning,

after he’d stared into my eyes so long and hard,
“Can you recall what color those eyes were, or
what expression was in them?” he’d have been unable.
His motivations were nobler than love, and much more stable.

Jenna Le

Ms. Le is a member of the Class of 2010 at Columbia University College of Physicians and Surgeons. This poem won first prize in the 2008 Pharos Poetry Competition. Ms. Le’s address is: 630 W. 168th Street, P&S Mailbox #418, New York, New York 10032. E-mail: jnl12105@columbia.edu.
I have good news:  
The white spot is fading.

I know what you have,  
And it’s not what I thought.

It’s not a cancer,  
It’s not a clot.  
A spot of pneumonia,  
Is what you’ve got.

You look surprised,  
Well, so am I.  
Ask some questions,  
Before we move on.  
More good news:

You’ve lost five pounds,  
And your rash is gone.  
I checked your cholesterol,  
And it’s way down.

There’s more:  
The smokes in your pocket,  
Haven’t burned you. Yet.

Dean Gianakos, MD

Dr. Gianakos is associate director of the Lynchburg Family Medicine Residency, and a member of the editorial board of The Pharos. His address is: Lynchburg Family Medicine Residency, 207 Langhorne Road, Lynchburg, Virginia 24501. E-mail: deangianakos@yahoo.com.