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The concept of mentor was first described by Homer in the *Odyssey*, personified in the character Mentor, the “wise and trusted counselor.” Physicians can be excellent mentors because of their motivation to serve, to share knowledge and experience, and their commitment to caring. Mentoring as defined by the Study Committee on Postgraduate Medical and Dental Education is “a process whereby an experienced, highly regarded, empathetic mentor guides another individual in the development and re-examination of their own ideas, learning and personal and professional development. The mentor achieves this by listening or talking in confidence to the mentee.”

Mentors have wisdom and experience worth seeking out. They are people who are willing to spend their time to guarantee a protégé’s success. Mentors are especially helpful when they share personal knowledge, advice, and experience, provide feedback about performance, and help mentees understand professional culture, traditions, networks and opportunities.

My career attests to the need for good mentors. There were no physicians in my family, but I was fortunate to find mentors who used their professional networks to introduce me to medical school faculty and to distinguished and successful professionals in the community.

During medical school, many of my teachers taught me well and served as exceptional role models. The best were smart, tough, fair, demanding, and supportive. They were also kind, humane, compassionate physicians caring for the poor, and always treating the sick and suffering with respect and dignity.

During residency, the faculty and more senior residents expected far more work and set a higher expectation for me than before. But they set the same high standard for everyone. My mentor during my endocrine fellowship was not a warm and communicative person, but he demanded curiosity, pursuit of excellence, hard work, critical thinking, and excellent communication skills.

I have been fortunate to have had many excellent mentors during my academic career who helped me through many important experiences and gave me much wise advice, but it is the wise questions they asked me at critical points that I remember most.

When I was concluding my negotiation for my first faculty position, my chairman of Medicine asked me, “If you could do anything, what would you do?” I had never been asked that before—I never even asked myself that question—but I quickly formulated my answer, a different one than what we had negotiated. His response was, “Why don’t you do that and I will help.”

I followed my passion, with his help and guidance, along a different professional path.

Later, one of my patients, the president of the university, asked me during his office visit with me, “What are you going to do next in your career and professional life?” I answered, “I have been wondering about that and I have no idea.”

His next question was: “What did you want to do before you were professionalized?” I reflected back and explained that I had been a history major and had thought I would be a history professor. Although I had no clear idea what it meant, I said I thought maybe I would become the president of a small college. He asked, “Why don’t you do that?” My response was, “Because I have been professionalized.” Then he said, “You are better prepared than you think, and if you want to pursue that path I will help.” He helped, and again I changed my professional trajectory.

I tell these stories to emphasize how important teaching, coaching, and mentoring can be in our personal and professional development, and to illustrate the importance of mentors, mentoring, and coaching.

Although we intuitively know the definitions of each of these important roles and functions, let’s look at them again:

- **Teaching** is “to cause one to know something, to know how, to guide the studies, to impart knowledge, to instruct by precept, example, or experience.”
- **A coach** is “a private tutor who instructs and/or trains players, athletes, musicians in the fundamentals, skills and intricacies to improve performance.”
- **A mentor** is “a trusted counselor guiding the professional development of an individual.”

There is much overlap in these functions, and it is important to recognize that good mentors are all of these things, and that they change their techniques and functions over time based on the needs of those they mentor.

We recently surveyed small numbers of AΩA members about what they would most like to contribute to medicine. The great majority responded, “to mentor undergraduate students, medical students, and/or young, less experienced...
physicians.” If that describes you, I encourage you to seek out mentors for your professional development, and to serve as mentors to others.

The process of professional development is complex. Professionals must first acquire knowledge and the skills of their profession through study and experiential learning. But true professional expertise comes through practice and constant feedback, often from a mentoring relationship with a senior colleague. The mentee learns and internalizes the profession’s attitudes and values, most often with a mentor. Mentoring is an iterative process analogous in many ways to preparing for and embarking on an expedition.

Each mentor/mentee relationship must be based on the common goal of advancing the educational, personal, and professional growth of the mentee. Although there is no single successful mentoring model, there are identified characteristics of good mentors and mentees. Five basic elements for successful mentoring relationships have been described as:

- The relationship focuses on achievement or acquisition of knowledge
- It consists of emotional and psychological support, direct assistance with career and professional development, and role modeling
- Both mentor and mentee derive tangible benefits
- The relationship involves direct interaction, and is personal in nature
- It emphasizes the mentor’s greater experiences, influences, and achievements in the profession or organization.

Good mentors inspire others to be like them because of aspects of their character, ethics, and expertise, and their accessibility and approachability. They respect and are respected by their peers.

Some general principles for mentoring are set out in the tables following. Hopefully, they will help guide mentors and mentees in this complex and developmental professional relationship of mentoring.

When I reflect on the people who had the greatest influence on me, I think of my coaches. From my first competitive swimming coach at the YMCA, to my swimming and water polo coaches in high school, junior college, and at the university, coaches were the most influential people in my life and early development. Each one coached me for many hours each day and over long periods, effectively coaching the required skills, and teaching me how to train and persevere, set high goals and aspirations, and improve through practice and repetition. They taught me how to compete and to understand the value of competition. I experienced the joy of improving, succeeding, and winning. They were also mentors who helped me to develop good values, to reflect and change, and to work as a team member for a common goal. I also learned about quantitative data, that the final time or score was not negotiable.

Recently, Dr. Atul Gawande published an interesting article in the New Yorker magazine, “Personal Best: Top Athletes and Singers Have Coaches, Should You?” In the article, he points out that in our traditional educational and professional process there is a perception that after a defined amount of time a student no longer needs instruction. It is presumed that after a certain point you go the rest of the way on your own by practicing what you have learned.

<table>
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<th>Table 1: Tips for Good Mentoring</th>
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<td><strong>Self-Assessment</strong></td>
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<td>Commit to mentoring</td>
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<td>Have a clear understanding of</td>
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<td>Mentor based on a realistic</td>
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<td>assessment of your skills and</td>
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<td>Recognize barriers to good</td>
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<td>Ensure a noncompetitive</td>
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<td><strong>Set the Principles</strong></td>
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<td>Develop mutual respect</td>
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<td>Emphasize ethics and</td>
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<td>Be direct and honest</td>
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<td>Commit to confidentiality</td>
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<td>Listen carefully to understand</td>
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<td>Clearly communicate your</td>
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<td>Be flexible and adaptable</td>
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<td>Be fair and just</td>
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<td>Be nonjudgmental in the</td>
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<td>Communicate hope and</td>
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<td>Advise, don’t dictate or be</td>
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<td>Give constructive criticism</td>
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<td>Celebrate success</td>
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<td>development is an evolutionary</td>
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In contrast, coaching holds that no matter how well prepared people are after their education and training, few can achieve and maintain their best performance on their own. Most people continue to practice what they are already good at, but need an outside perspective to learn how to continue to improve.

Good coaches or mentors can observe a performance and break it down into crucial individual components, then make suggestions about how to improve. A good coach makes you aware of where you are falling short. Then, with the coach’s feedback and suggestions and your own self-effacement and personal practice, you can move forward.

There are currently no recognized coaches in medicine. The practice of medicine is largely unwitnessed by anyone. After a number of years of “practice,” a doctor is considered an expert forever. But this is clearly not true. Gawande writes: “As I went along, I compared my results against national data, and I began beating the averages. My rates of complications moved steadily lower and lower. And then, a couple of years ago, they didn’t. It started to seem that the only direction things could go from here was the wrong one.” Recalling an afternoon spent with a tennis coach improving his serve, Gawande decided what he needed was a surgical coach. He enlisted a former mentor who observed him in practice and made many helpful suggestions for improvement in his operations. With that coaching, he was successful in improving performance, and hopefully patient outcomes.

Gawande concludes, “Coaching done well may be the most effective intervention designed for human performance.” He writes, “In the past year, I’ve thought nothing of asking my hospital to spend some hundred thousand dollars to upgrade the surgical equipment I use, in the vague hope of giving me finer precision and reducing complications... But the three or four hours I’ve spent with [my coach] each month have almost certainly added more to my capabilities than any of this.”

While many of us empirically know the value and importance of teaching, mentoring, and coaching in professional development and in medicine, the effects of mentoring are difficult to measure and the literature is limited. Among the perceived benefits of mentoring include greater satisfaction in the profession, help with and a widening of career choices, improved coping skills, increased social support, improved professional behavior, broader educational experience, and increased networking.

Our profession requires us to be continual students and learners and show continual improvement as physicians. All of us can use good teachers, mentors, and coaches.

Physicians have always been teachers. We often think about teaching medicine in the traditional sense of lectures, case presentations, ward rounds, surgery, and other learning experiences. I believe we should view mentoring as a professional obligation and seek opportunities to mentor others.

I hope you will read and reflect on mentors, mentoring, and coaching and pursue opportunities to give back to others what you have learned and experienced preparing for and practicing in medicine.

Richard L. Byyny, MD, FACP
Executive Director, Alpha Omega Alpha
Editor, The Pharos

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<td>Find joy in your mentee’s</td>
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<td>improvement and successes</td>
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<td>Have a clear understanding of the</td>
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<tr>
<td>expectations and goals of your</td>
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<td>mentee</td>
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<td>Encourage your mentee’s ideas</td>
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<td>and work</td>
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<td>Provide constructive and useful</td>
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<td>critique of your mentee’s work</td>
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<td>Challenge your mentee to</td>
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<td>expand and improve his abilities</td>
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<tr>
<td>Respect the uniqueness and</td>
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<tr>
<td>contributions of your mentee</td>
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| Acknowledge contributions of your|
| mentee                          |
| Help your mentee develop        |
| humility                        |
| Help your mentee develop self-  |
| esteem                         |
| Be aware of biases and don’t let|
| assumptions interfere           |
| Encourage your mentee to take   |
| on leadership roles             |
| Observe your mentee at her      |
| professional work               |

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<th>Table 3: Tips for Mentees</th>
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<tr>
<td><strong>Self-Assessment</strong></td>
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<tr>
<td>Have a clear understanding of</td>
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<td>your motivation to be mentored</td>
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<tr>
<td>Select a mentor based on your</td>
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<td>short-term goals and career</td>
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<td>interests</td>
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<tr>
<td>Have a clear understanding of</td>
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<td>your expectations of your</td>
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<td>Be proactive to find mentors</td>
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<td>Be realistic about time</td>
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<td>Ensure a noncompetitive</td>
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<td>Determine your areas of need</td>
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<td>Determine the help needed to</td>
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<td>reach your potential and goals</td>
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<tr>
<td>Decide what you hope to gain</td>
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<td>from mentoring</td>
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| **Learn**                      |
| Actively listen and contribute  |
| to the conversations           |
| Do your homework               |
| Use other resources to look up |
| useful information             |
| Demonstrate the ability to set |
| agendas                        |
| Ask what knowledge, skills, and |
| expertise you need to develop   |
| further                        |
| Discuss what you believe to be |
| the strengths you already have  |
| Be aware when the relationship  |
| has run its course             |
| Say “thank you”                |
| Celebrate accomplishments      |
| Give back to the profession by |
| mentoring others               |

| **Set the Principles**         |
| Communicate your expectations  |
| Be reliable                    |
| Be honest                      |
| Follow through                 |
| Accept criticism               |
| Continually reassess performance|
| Be respectful                  |
| Act on your own initiative     |
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“My life, my soul, my body I owe to you and God”

Harvey Cushing and the patient-physician relationship seen through correspondence

Courtney Pendleton
The need for written documentation in the medical profession has grown over the past century, in response to the increasing complexity of medico-legal regulations. Yet, for all the written notes charting phone calls, lab reports, clinic visits, and follow-up, the contemporary clinician meets the classic definition of a cynic, “A man who knows the price of everything, and the value of nothing.”

In the era of e-mail, social networking, and electronic patient records, written correspondence has arguably become less a necessity and more a quaint pastime, and the immense value of the letter as a tool for patient-physician communication has been forgotten.

Through IRB approval and courtesy of the medical records office and the Alan Mason Chesney Archives of the Johns Hopkins Medical Institutions, the surgical files from the Johns Hopkins Hospital from 1896 to 1912 were accessed. The cases attended by Harvey Cushing, an inveterate letter writer, were reviewed and analyzed. Unless otherwise noted, all quotations are taken from the unpublished surgical records.

These files contain the tremendous volume of written correspondence between Cushing and his patients and colleagues across the globe. The many facets of the patient-physician relationship are illuminated through the lens of the written correspondence between Cushing and his patients.

Post-operative follow-up

At the turn of the twentieth century, Cushing had established a nationwide referral base, operating on patients from as far west as California and as far north as Canada. With travel still a time-consuming endeavor of long locomotive journeys, it was often impossible for patients to return to the Hopkins clinic for post-operative observation and care. Many patients were lost to follow-up, presumably obtaining further care closer to home from specialists or primary care physicians. Cushing regularly wrote to these former patients, asking for information regarding their health and post-operative course. Most of them offered straightforward descriptions of their health conditions, as in the letter written by a thirty-six-year-old sailor whom Cushing treated for epilepsy:

I am very glad to let you now of my condition as it is over ninety days since I had a convulsion and I am very hopeful of getting well again. My physical condition is fairly good but I still retain those periods of quiet not caring to converse with anyone.
Not all follow-up reports were positive, however. The mother of a seventeen-year-old girl who had also undergone operative intervention for epilepsy wrote to Cushing almost three years post-operatively:

In regards to your letter about my daughter I don’t see that she is any better now she has that bad feeling in hur head like she had when she went there and the attacks ar the same her helth is very good only once a month she has hur bad attacks drawing in hur lages and arms and pain in hur back and head. She had a bad spell after she came home from the hospital she was taken the 1 of june with a sleepy feeling in hur hands and feat and lost the use of hur self and stade so till the next spring

Although the operation was not successful in treating the patient’s epilepsy, the mother’s letter contains no trace of bitterness, and she closed with a request to Cushing to “let us hear from you a gain.”

Patients often faced a difficult conundrum: they were not well enough to travel to Baltimore, but were unable to obtain specialized medical care or pharmaceuticals close to home. Many patients wrote to Cushing asking that he send medications and supplies, including large batteries for the electrical stimulation he prescribed for patients who had undergone peripheral nerve operations. One such patient was the first patient Cushing operated upon for a presumed sellar lesion using the so-called omega incision. This patient diligently catalogued his symptoms in letters to Cushing, presumably in response to instructions from the neurosurgeon:

I can’t see that there is an increase in the amount of urine within the last year but will try to measure it . . . my kidneys act from two to four + sometimes five times during the night.

Clearly the patient tried to follow Cushing’s instructions to the letter, going so far as to redact his words to show that he would not merely attempt to perform a task, he would complete it. Probably unbeknownst to him, he was using these epistles to describe the presence or absence of symptoms of diabetes insipidus, a syndrome Cushing knew occurred after sellar operations. Later, the patient wrote to Cushing:

I do not feel able to go to Baltimore. Why can you not doctor me here by sending the treatment here so I can remain at home.
Cushing must have responded in the affirmative, because the next letter, dated nearly four months later, says:

Dear Dr.

I have finished taking the tablets but am feeling about the same as I did before taking them.

Death notification

Contemporary physicians customarily use Internet searches and national databases such as the Social Security Death Index to find information about patient deaths. In Cushing’s era, information traveled more slowly, with no central repository to access for this information. The majority of Cushing’s patients treated at the Johns Hopkins Hospital lived and died without having a Social Security number (the program was instituted in 1935), making their fates difficult to ascertain even with all the resources of modern technology.

Families often sent letters to simultaneously inform Cushing of the death of a former patient and to express gratitude for his operative services and continued interest.

The mother of a five-year-old child who was operated on for a brain tumor wrote a little less than three weeks following the end of their hospital stay:

Dr. Cushing,

Dear Friend,

Just a few lines to let you know that my dear little girl died last week July 20. She died without a struggle just as though she were asleep.

I only wish she would have been where you could have tapped that place as it was very full . . .

Thanking you for all your many kindnesses shown us.

Cushing was clearly viewed as a healer in the truest sense by this family. That the mother offered her thanks to the surgeon who failed to save her daughter’s life is a testament to Cushing’s skill at the bedside as well as within the operating theater.

Patients’ families used these notifications of death to search for answers as much as to give information. The family of a twenty-four-year-old woman on whom Cushing performed surgery for a brain tumor wrote to him upon her death:

Writing to you today is with a different feeling than the one over a month ago, I would not dare think our darling would not recover, however without pain and in so terrible condition we try to be reconciled though now as I study and wonder it would be so comforting to know, where did you locate the pressure . . . and what was the immediate cause of her going?

Gratitude

Patients most frequently wrote to Cushing to express their gratitude for his interventions, almost regardless of his success. Some of the most effusive letters were written by patients who underwent surgical treatment for trigeminal neuralgia, a paroxysmal pain syndrome dubbed the “suicide disease” because of the intractable pain it causes those suffering from it. This point is certainly emphasized by the chief complaint of “misery in the head” documented for a patient diagnosed with the disease. One fifty-seven-year-old patient, treated in 1908, wrote that he experienced:

never a twinge from the nerve! A world of thanks and praise to you, my dear sir. May your hand never lose its wonderful cunning!

A young man whose epilepsy made him incapable of working was able to return to light work in the family business after Cushing operated. The patient wrote:

I am surely thankful I became acquainted with Dr Harvey Cushing for I feel sure my Lord hath blessed me in this way and through you has enabled me to reasch my highest aspirations and also fulfilled an anxious mothers hope.
Despite Cushing’s best efforts, the patient had continued to have seizures during his post-operative stay in the hospital, but his letter reflects no frustration or disappointment.

This profuse gratitude in the face of less than ideal results is not unique—multiple letters echo these sentiments. At the turn of the twentieth century, neurosurgery was still considered by many to be a fool’s errand at worst, and a desperate last resort at best. These patients may have recognized that Cushing had shepherded them through the no-man’s-land of an intracranial operation and brought them out unscathed, possibly even improved. One thirty-eight-year-old patient with symptoms consistent with a left-sided lesion underwent surgery. Cushing expected a brain tumor, but a second operation revealed a thrombosed middle cerebral artery and softening of the surrounding brain parenchyma. The patient was discharged in “improved” condition, but his right-sided weakness and aphasia remained. He wrote nearly three years later, stating:

First of all, My life, my soul, my body I owe to you and God. I am gaining nicely and it is the first time for pretty near three years that I thought I would write to you to-day.

He wrote again in December 1911:

Again I want to thank you with all my heart that you have saved me, of course nature is trying to heal in the brains but never-the-less it was you who saved me. There is no doubt about it.

Five years later, the patient’s last letter to Cushing reads:

So in a way, I am happy because for the last three years it is a beautiful world . . . . even now I cannot express myself the way I want to but I go where I please now. I was in Los Angeles and San Diego last spring myself and that is proof that I go where I please by myself and for a good many years I could not do it. It was certainly a wonderful operation in Baltimore.

Overall, the letters of thanks from Cushing’s patients appear to value increased independence over complete cure of their ailments.
**Other requests**

The written correspondence filed in the surgical records is by no means confined to clinical outcomes and medical questions; many of the letters reflect the complexities and conundrums of the patient-physician relationship that Cushing must have struggled with throughout his career.

A handwritten from the mother of a girl Cushing had operated on for idiopathic epilepsy when the patient was sixteen years old. The mother wrote multiple letters attempting to set up a meeting between her daughter and Cushing, with unknown intentions. Courtesy of the Medical Records Office and the Alan Mason Chesney Medical Archives of Johns Hopkins Institutions.

In the spring of 1903, Cushing operated on a sixteen-year-old girl for the treatment of "idiopathic epilepsy." She had an uneventful recovery, and was sent home in improved condition. Her mother began a correspondence with Cushing that spanned the next three years; the letters begin innocuously enough, with the mother writing:

Enclosed is record of K’s attacks during month of September, her condition generally is about the same . . . Please let me hear from you soon, what do you think of her now?

The postscript to that letter begins to develop shades of strangeness:

PS.

I would like for you to see K I can bring her to see you if you want to see her. Let me know. I want you to see her and then I can explain all to you. She looks so well.

Within the hundreds of letters contained in the surgical records, most contain patients’ regrets at being unable to travel to Baltimore to see Cushing; this mother’s letters are the only written correspondence that so steadily pursues an appointment with Cushing. From the next letter, dated early 1904, it appears that Cushing himself attempted to avoid responding in either way.

Dr. Cushing,

Why don’t you write. You did not answer my last letter. . . . I would like to see you and tell you all and I want you to see K . . . ever time she gets sick she says she wants to see Dr. Cushing.

There is no record that K and her mother ever returned to Hopkins, or that Cushing proffered a response. The last letter from the family was dated March 1906:

I know you will be surprised to hear from me. Guess you remember me and little K who you operated on for spasms, I am glad to say she is so much better and doing fine you certainly did help her some times she goes for months and don’t have one. And I think she will get entirely over them. I wish you could see her she looks fine. And thinking of getting married this summer what do you think about it let me have your opinion. I told her I was going to ask you about it first. She sends her love to you and said tell you she would love to see you.

One of the delights of the written letter is the potential of inferring what the author might have implied. In this case, it may be that the mother merely sought Cushing’s in-person evaluation of her daughter, but the persistence of these efforts, coupled with the request that Cushing weigh in on her daughter’s impending marriage, offer a titillating alternate possibility—she may have attempted to play matchmaker for her daughter and the young, albeit newly married, neurosurgeon. While such a scenario may seem unlikely, Cushing had a fair share of ardent admirers among his female patients. In April 1911 Cushing operated upon a twenty-three-year-old woman for a “cerebellar pontine tumor.” The operation met with success and she was discharged in “improved” condition. In November 1911, two months after leaving the hospital, the patient wrote a very flattering letter to Cushing:

Dear Dr. Cushing,

I suppose you wonder who in the world this is, so I’ll tell you it is none other than M who so often thinks and talks of you, her favorite Dr. . . .

. . . If you were near enough I’d give you some of the nice things I get to eat.

Dr. Cushing, would it be asking too much to ask you to send me your picture? I’m sure if you knew how much I want it you would grant my request.

I declare, Dr., I want it worse than any thing I know of. Please write, in your own hand, your name and date under the picture. . . .

If you practice your profession forty thousand years you will never have a patient who loves you like M
Though Cushing regularly corresponded with his patients, and may have written to M and her family, he appears to have avoided responding to this particular request, much as he did with K’s mother. M was not to be dissuaded, however, and in March 1912 she wrote Cushing again:

Dear Dr. Cushing,

I’m writing this note to find out if the extremely cold winter has frozen your memory—Do you know that you said you would sometime send me a picture of yourself—? Have you not yet been the victim of a photographer?”

Cushing continued this correspondence, although his letters are not preserved in the surgical files. The last handwritten note is dated March 1915, and describes M’s continued interest in seeing Cushing again:

we are hoping that business or pleasure may sometime bring you to this part of the U.S. and that we may have the very great pleasure of entertaining you here. Don’t you think that might be a possibility.

This letter includes a glimpse at the general fondness she had for all her attendings at the hospital:

Was I to infer from your last letter that Dr. Goetsch is now a Bostonian . . . I certainly would like to see him if he wouldn’t shave my head again.

The chart contains a final letter, dated July 1921, which was excerpted and typed into the surgical record. The excerpts contain entirely clinically relevant descriptions of the patient’s condition at that time, without a hint of the more personal communication she had held in earlier letters.

The handwritten letter from a former patient, who was operated on for a suspected brain tumor in 1911.

Courtesy of the Medical Records Office and the Alan Mason Chesney Medical Archives of Johns Hopkins Institutions.

The Pharos/Winter 2012
Referrals

As an up-and-coming young neurosurgeon, Cushing certainly strove to develop his practice beyond the confines of Baltimore. By the early 1900s, he had expanded his practice to include patients traveling great distances to visit the Johns Hopkins Hospital. Many of his former patients wrote describing cases of friends and loved ones that they hoped would fall within the purview of Cushing’s practice.

In addition to advocating for personal care for her daughter, K’s mother sought a consult from Cushing for a family friend:

Now Dr. Cushing, I have a friend here, and he has a brother that is insane caused from kick in the head over 9 years go. The poor man has large family and not much money for he has been sick so long. What would you operate on him for? How cheap could you do it. Please let me know by return mail. He is not wild very quiet and his brother will bring him to you. Please let me know at once.

No patient chart matching this description can be found in the surgical records. It is uncertain if Cushing declined to see the patient, or if the patient came to the Johns Hopkins Hospital under the care of another attending.

Another rich source of referrals was Cushing’s growing group of satisfied former patients. While the surgical records do not indicate whether patients were referred by friends or acquaintances who had been treated by Cushing, many letters indicate that patients translated gratitude into referrals. In particular, Cushing’s success at treating trigeminal neuralgia earned him much admiration among his patients. One sixty-three-year-old man who underwent avulsion of the sensory root of the trigeminal nerve wrote expressing his gratitude:

Now my dear doctor, how to express my gratitude to you for what you have done for me, I am at a loss to know. I shall ever regard you as my greatest benefactor in this world, and pray the good Lord to shower upon you His heavenly blessings, and make you instrumental in giving relief to many more such afflicted mortals as I was.

He was not content to leave matters entirely in the hands of “the good Lord,” and later wrote:

Several parties afflicted as I was have either written to me or called on me personally and I have recommended you as a specialist, who can certainly give them relief.

Conclusions

The surgical records reveal the truly diverse patient population treated by Cushing during his time at the Johns Hopkins Hospital, from African-Americans born in the South before the Civil War to urban socialites with charts full of documentation from European specialists. The letters written by these patients are equally varied, including well-written genteel epistles and harried notes full of misspellings. Unlike the documentation that fills contemporary medical records, which often provide only abstracted clinical data, these letters offer insights into the lives of the patients who painstakingly wrote them, as well as the surgeon bound to receive them. The handwriting often chronicles the decline of patients suffering from incurable brain tumors; the laboriously written, misspelled letters show us the perseverance of patients with limited education who desired nothing more than to communicate their gratitude; and the detailed descriptions of symptoms and signs over time demonstrate patients’ efforts to provide a trusted physician with adequate information to treat them afar. Through each letter we see Cushing not as the curmudgeonly taskmaster often portrayed in biographies, but as a young neurosurgeon with enough humanity to inspire this volume of earnest letter writing.

References

3. The Johns Hopkins Hospital Surgical Records 1896 to 1912. Courtesy of the Alan Mason Chesney Archives of the Johns Hopkins Medical Institutions.

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Choosing a medical specialty

Epiphany, where are you?

Jenna L. Thomason, BS

The author is an MD/MPH candidate in the Class of 2012 at Emory University School of Medicine and the Rollins School of Public Health at Emory University.

epiph·a·ny noun ˈe-pə-fa-ˌné: (1) a usually sudden manifestation or perception of the essential nature or meaning of something (2) an intuitive grasp of reality through something (as an event) usually simple and striking (3) an illuminating discovery, realization, or disclosure.

—Merriam-Webster Online

Oh Epiphany, where are you? I attended a year and a half of lectures and absorbed as much information as possible about every molecular, biochemical, and cellular mechanism imperative to maintaining the body’s homeostasis. I spent countless hours in the basement of the medical school learning anatomy from my cadaver (whom we fondly named “Arnold”). I have studied every organ system—integumentary, musculoskeletal, respiratory, lymphatic, cardiovascular, endocrine, genitourinary, gastrointestinal, nervous, reproductive—as well as the hundreds of disease processes that cause these systems to go awry.

I wielded a blade like a surgeon. I walked the halls of Grady like an internist. I delivered a baby like an obstetrician. I held the hand of a dying patient as a palliative care provider. I distinguished macules from papules and patches from plaques on my dermatology rotation. I treated everyone from tiny babies to pregnant ladies to the elderly as the understudy of a family physician. I tested each reflex and every nerve during my neurology clerkship. At the side of a radiologist, I learned anatomy that Arnold couldn’t teach me. I cared for many minds on psychiatry and many tiny bodies on pediatrics. I have witnessed the full range of disease etiologies, including genetic, developmental, toxic, infectious, traumatic, metabolic, chemical, neoplastic, and degenerative. I have studied the vast spectrum of treatment options, including behavioral, pharmacologic, and surgical, and I understand the rationale and application of each to the above disease etiologies. All this has led me to the most difficult professional crossroads of my life: Where do I go from here?

The decision to pursue medical school was the easiest decision that I have ever made. I’ve never known a stronger desire than the one that I felt (and still feel) to become a doctor. I wanted to make the commitment to caring for people and possess the knowledge to do so. I hardly knew what I was getting myself into, but I couldn’t wait to get started.

So how did the simplest decision turn into the hardest one? And when did life become a multiple choice test? All of sudden I have to chose between: (a) kids; (b) adult males and females; (c) females only; or (d) both (a) and (c). I have to decide whether I want to interact with patients or examine their pictures or inspect their pieces (in the form of pathological specimens). Do I want to know a little about a lot or a lot about a little bit? I have to factor in lifestyle, inpatient versus outpatient, academics versus private practice, seeing mostly sick patients, skin versus bones versus eyes . . . and it’s more complicated than those aforementioned molecular, biochemical, and cellular mechanisms ever were.

So, dear Epiphany, why are you so late? You were supposed to make this an easy decision. Is this punishment for all of those days during first year of medical school when I snuck into 8 AM lecture when the minute hand was a few degrees past 12? I thought for sure that you would be here by now. I was counting on you. I’m starting to think you’re not coming. Maybe you never were.

Contrary to my idealistic expectations, many medical students—if not most—end up marking you down as a “no show” in our appointment books. The truth is, there may not be one single specialty that’s right for any of us. If we are having trouble deciding between two or three, any one is likely to fit roughly equally as well as the others. After spending many months agonizing over this decision, I have finally found that Jenna the pediatrician is not so different from Jenna the dermatologist or Jenna the geriatrician—because I will not be defined by the type of patient I see, but how I see them.

Stress over what divides us is temporary, but preserving what unites us—commitment to lifelong learning, medical ethics, and our patients—is unceasing, and is what earns all of us the extra letters that follow our last names.

Epiphany, we meet at last.

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We practice all afternoon, telling each other,
“I have some bad news. Your mother has died.” Sometimes
it’s a sister, a son. We say, “We did everything,
everything we could” and “I’m so sorry” and
“Do you want to see her now?”
Our teacher is an emergency physician. She does this all the time.
We ask, “What if the family gets angry?” She says, “That’s why
you always stand near the door.”
We ask, “What if we start to cry?” She says, “If you can help it,
don’t cry. But it probably won’t make things worse.”
We ask, “Do you always say the word dead?” She says,
“I try to say it twice. Usually, even then, they’ll ask—
‘So you mean he’s dead?’ ‘Yes,’ I say, ‘He’s dead.’”
We ask, “What if they want to know if he was in pain?” She says, “Say no.”
She pauses. “Although,” she says, “I believe
the feat of dying is not painless. The brain must
panic, even if the body doesn’t. But,” she continues, “Say no.
Always just say no.”

Sarah Leeper
An intellectual is someone whose mind watches itself.
I entered into this profession, this art—
It is easy to slip into a selfish thirst to prove myself,
Amidst all the memorization of complex body parts.

I entered into this profession, this art.
But I sometimes forget the patients whom I am working for,
amidst all the memorization of complex body parts.
(Biochemical pathways, reactions, and science galore.)

I sometimes forget the patients whom I am working for,
We were all so idealistic—bright-eyed and bushy-tailed at the inception.
In spite of biochemical pathways, reactions, and science galore,
It is crucial to keep clear and undimmed our perception.
We were all so idealistic—bright-eyed and bushy-tailed at the inception;
More difficult is now to stay the course and remain consistent.
It is crucial to keep clear and undimmed our perception:
Integrity, honesty, communication—to these we must be persistent.

More difficult is now to stay the course and remaining consistent—
It is easy to slip into a selfish thirst to prove myself.
Integrity, honesty, communication—to these we must be persistent.
Recall—an intellectual is someone whose mind watches itself.

Angela Jiang

Ms. Jiang is a member of the Class of 2014 at the Ohio State University College of Medicine. This poem won third prize in the 2011 Pharos Poetry Competition. Ms. Jiang’s address is: 1062 Pennsylvania Avenue, Columbus, Ohio 43201. E-mail: angela.jiang@osumc.edu.
Illustration by Erica Aitken
Illustration by Erica Atken.
The case for an unrestricted liberal arts collegiate education

Nathan Kase, MD, and David Muller, MD

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One hundred years ago Abraham Flexner changed the paradigm by which physicians are trained in this country.1-2 Among his many contributions was the principle that successful performance in universal, standardized, and demanding premedical basic science courses be required of undergraduates applying for admission to U.S. medical schools. By 1930 these requirements were fully entrenched, requiring two semesters each of chemistry, biology, and physics, and one semester of organic chemistry. Eighty years later, despite continued and mounting opposition, these premed requirements continue to be enforced.

Calls for change of this status quo have persisted and, in recent years, intensified.3-8 While the displeasure is uniform, the ways in which baccalaureate preparation for medical school and medical school admissions policies might be amended reflect differing and sometimes even opposing perspectives. Most representative of this polarity are two major advocacy statements: on the one hand the 2009 report of the AAMC-HHMI Committee, "Scientific Foundations for Future Physicians,"9 and on the other the now decades old but still pertinent "Physicians for the Twenty-First Century" report of the AAMC Project Panel on General Professional Education of the Physician and College Preparation for Medicine (GPEP) which appeared in the early 1980s.10 Both the AAMC-HHMI and GPEP expert panels were commissioned to examine, among other elements of medical education, the aims and content of the premedical curriculum. Their vastly different conclusions are emblematic of the major themes that characterize diverging objectives of premedical education reforms.

The case for SCIENCE competencies:
The HHMI-AAMC Report

The AAMC and HHMI convened a diverse group of scientists, physicians, and science educators drawn from small colleges, large universities, and medical schools to address the following paradox: while the scientific knowledge essential for acquiring and successfully applying the skills necessary for the expert practice of clinical medicine has changed "dramatically," the medical prerequisites and admission requirements have remained "essentially unchanged." The group was asked to address the inherent tension between "teaching scientific facts" and "preparing physicians to actually use scientific knowledge." It set out to identify "the most important scientific competencies in the natural sciences required of students graduating from college prior to matriculating into medical school."9

In keeping with the National Academies' BIO 2010 conclusions that premedical course requirements and the MCAT content constrain undergraduate science education,11 the HHMI/AAMC group defined eleven knowledge principles and eight scientific competencies that reflect acquisition and effective application of those principles. Proficiency in each determines readiness for medical school admission.

In the view of the committee, the shift from testing facts to achieving competencies will allow greater flexibility for collegiate faculty and curriculum planners to exploit the talents and resources of their institutions when revising course content. Ultimately, such changes will help to engage and personalize the curricula of their science/premedicine students and their science faculties.

The report acknowledged that these recommendations were a "first step" in a continuing "conversation" about the appropriate skills, knowledge, values, and attitudes future physicians should possess. In this regard the AAMC has also convened a separate panel to examine the behavioral and social science (our emphasis) competencies for future physicians, which will be released at a later date.
### Competencies as the basis for reformed premedical education

Table 1

<table>
<thead>
<tr>
<th>HHMI: Scientific Foundations for Future Physicians</th>
<th>Eight Expectations of Entering Medical Students</th>
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</thead>
<tbody>
<tr>
<td>1. Apply quantitative reasoning and appropriate mathematics to describe and explain phenomena in the natural world.</td>
<td>5. Demonstrate knowledge of how biomolecules contribute to the structure and function of cells.</td>
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<tr>
<td>• Interpret data sets and communicate those interpretations using visual and other tools.</td>
<td>• Apply algorithmic approaches and principles of logic (including the distinction between cause/ effect and association) to problem solving.</td>
</tr>
<tr>
<td>• Demonstrate quantitative numeracy and facility with the language of mathematics.</td>
<td>• Extract relevant information from large data sets.</td>
</tr>
<tr>
<td>• Make statistical inferences from data sets.</td>
<td>• Structure, biosynthesis, and degradation of biological macromolecules.</td>
</tr>
<tr>
<td></td>
<td>• Principles of chemical thermodynamics and kinetics that drive biological processes in the context of space (i.e., compartmentation) and time: enzyme-catalyzed reactions and metabolic pathways, regulation, integration, and the chemical logic of sequential reaction steps.</td>
</tr>
<tr>
<td>2. Demonstrate understanding of the process of scientific inquiry, and explain how scientific knowledge is discovered and validated.</td>
<td>6. Apply understanding of the principles of how molecular and cell assembles, organs, and organisms develop structure and carry out function.</td>
</tr>
<tr>
<td>• Develop observational and interpretive skills through hands-on laboratory or field experiences.</td>
<td>• General components of prokaryotic and eukaryotic cells, such as molecular, microscopic, macroscopic, and three-dimensional structure, to explain how different components contribute to cellular and organismal function.</td>
</tr>
<tr>
<td>• Demonstrate the ability to measure with precision, accuracy, and safety.</td>
<td>• How cell-cell junctions and the extracellular matrix interact to form tissues with specialized functions.</td>
</tr>
<tr>
<td>• Operate basic laboratory instrumentation for scientific measurement.</td>
<td>• Articulate (in guided inquiry or in project-based research) scientific questions and hypotheses, design experiments, acquire data, perform data analysis, and present results.</td>
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<td></td>
<td>• Demonstrate the ability to search effectively, to evaluate critically, and to communicate and analyze the scientific literature.</td>
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<tr>
<td>3. Demonstrate knowledge of basic physical principles and their application to the understanding of living systems.</td>
<td>7. How organisms sense and control their internal environment and how they respond to external change. Explain:</td>
</tr>
<tr>
<td>• Mechanics as applied to human and diagnostic systems.</td>
<td>• Thermodynamics and fluid motion.</td>
</tr>
<tr>
<td>• Electricity and magnetism (e.g., charge, current flow, resistance, capacitance, electrical potential, and magnetic fields).</td>
<td>• Quantum mechanics, such as atomic and molecular energy levels, spin, and ionizing radiation.</td>
</tr>
<tr>
<td>• Wave generation and propagation to the production and transmission of radiation.</td>
<td>• Systems behavior, including input-output relationships and positive and negative feedback.</td>
</tr>
<tr>
<td></td>
<td>• Maintenance of homeostasis in living organisms by using principles of mass transport, heat transfer, energy balance, and feedback and control systems.</td>
</tr>
<tr>
<td>4. Demonstrate knowledge of basic principles of chemistry and some of their applications to the understanding of living systems.</td>
<td>8. Demonstrate an understanding of how the organizing principle of evolution by natural selection explains the diversity of life on earth. How:</td>
</tr>
<tr>
<td>• Atomic structure.</td>
<td>• Genomic variability and mutation contribute to the success of populations.</td>
</tr>
<tr>
<td>• Molecular structure.</td>
<td>• Evolutionary mechanisms contribute to change in gene frequencies in populations and to reproductive isolation.</td>
</tr>
<tr>
<td>• Molecular interaction.</td>
<td>• Principles of chemical reactivity to explain chemical kinetics and derive possible reaction mechanisms.</td>
</tr>
<tr>
<td>• Thermodynamic criteria for spontaneity of physical processes and chemical actions and the relationship of thermodynamics to chemical equilibrium.</td>
<td>• Chemistry of carbon containing compounds relevant to their behavior in an aqueous environment.</td>
</tr>
</tbody>
</table>

Source: Reference 9.
The case for ATTITUDES AND VALUES competencies: The GPEP Report

Assembled three decades ago, the GPEP committee included college presidents, medical school deans, chairmen, professors, practitioners, and nonmedical members. Its charge was an ambitious, all-encompassing review of the entire landscape of American medical education: collegiate, medical school, graduate medical education, and faculty development. In particular, the panel was commissioned to assess the adequacy of medical education and admissions policies and the nature of premedical undergraduate preparation to “meet the challenges of medical care in the twenty-first century.”

The report’s recommendations reflected the panel’s perception of a widening disconnect between (1) increasing medical specialization fueled by the accelerating expansion of medical science, technology, and information services, and (2) the individual patient’s—indeed the general public’s—concerns about quality and access to health care.

With respect to premedical education, their major recommendations were as follows:

• Broaden the baccalaureate preparation in the social sciences and the humanities.
• Modify medical school admissions requirements to accommodate broader and more diverse baccalaureate preparation.
• Require an undergraduate scholarly endeavor.
• Final admissions decisions should incorporate an applicant’s ability “to learn independently, acquire critical analytical skills, [and] develop the values and attitudes essential for members of a caring profession.”

In the panel’s view, the tendency of college students to shape their education prematurely towards the narrow objective of admission to medical school generates an unbalanced college experience resulting in exclusion of a broad liberal arts education. The panel predicted a further reinforcement of these adverse tendencies if medical school admissions policies continued to emphasize high MCAT scores and exceptional science grade point averages. The fundamental position underlying the panel’s conclusion was the conviction that all physicians, regardless of specialty, should not only acquire and sustain clinical expertise, skills, and knowledge, but also retain, hone, and apply humanistic values and attitudes nurtured and expanded in college and inherent to a profession dedicated to caring and healing. In support of this conclusion, the panel recommended that evidence of strong rhetorical skills be included in medical school admissions criteria and given greater weight in their selection processes. These skills were defined as cogent, effective writing demonstrating originality, thorough research, sound analysis, and persuasive argument that was developed and sharpened in a variety of liberal arts disciplines.

GPEP also suggested that “medical school admissions committees’ practice of recommending additional courses beyond those required for admission should cease” and that “some institutions may wish to experiment by not recommending any specific course requirements.”

In conclusion, both HHMI and GPEP, albeit with very different approaches and reasoning, seek to distinguish and nurture the self-initiating, self-directed, independent student from the equally intelligent, well prepared, but passive recipient of current knowledge.

<table>
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<th>Table 2</th>
<th>General Professional Education of the Physician and College Preparation for Medicine in the Twenty-First Century Recommendations: Baccalaureate Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Broaden preparation of every student</td>
<td>“…to achieve an education that encompasses broad study in the natural and social sciences and in the humanities: First to publicly define and decry existence of “a Premed Syndrome.”</td>
</tr>
<tr>
<td>2. Modify admissions</td>
<td>“Medical school admissions committees’ practice of recommending additional courses beyond those required for admission should cease. Some institutions may wish to experiment by not recommending any specific course requirements.”</td>
</tr>
<tr>
<td>3. Requiring scholarly endeavor</td>
<td>“College faculties should make the pursuit of scholarly endeavor and the development of effective writing skills” a requirement.</td>
</tr>
<tr>
<td>4. Making selection decisions</td>
<td>“Medical school admissions committees should make final decisions using criteria that appraise students’ abilities to learn independently, to acquire critical analytic skills, to develop attitudes essential for members of a caring profession and to contribute to the society of which they are a part.”</td>
</tr>
</tbody>
</table>

Source: Reference 10.
Competencies as the basis for reformed premedical education

Efforts to meld these principles are ongoing. For example, the Accreditation Council for Graduate Medical Education (ACGME) introduced the “General Competencies” for graduate medical education in 1999. This broad set of general skills and attitudes (including competence in patient care, medical knowledge, and interpersonal and communication skills, among others) was meant to serve as a framework for resident training and development. To sustain ACGME accreditation, each training program, regardless of specialty, is now responsible for documenting its trainees’ performance and progress within each competency element.

In 1998 the AAMC, with broad input from national leaders in medical education, published the “Learning Objectives for Medical Student Education” as part of its Medical School Objectives Project (MSOP). This aimed to define the essential attributes physicians need to fulfill their “duty to society” (including requiring physicians to be altruistic, knowledgeable, skillful, and dutiful).

Two elements of the proposals by GPEP, ACGME, and the AAMC (MSOP) are strikingly similar: the inextricable connection between competency in communication skills and effective patient care, and the fact that altruism and accountability (performing in a “dutiful” manner) are essential elements inherent to the behavioral attributes we call “professionalism.”

How will medical schools respond?

While both the HHMI and GPEP positions are appealing, it seems that meaningful reform can only be achieved by a combination of (1) individual colleges developing competency based curricula, (2) the AAMC altering the MCAT to assess the acquisition of competencies, and (3) medical schools modifying the philosophies governing their admissions criteria. That degree of change is daunting on many levels, not the least of which is medical schools’ apparent collective reluctance to fix something they believe isn’t broken.

What is missing is formal, persuasive evidence defining how well students perform if admitted to medical school with radically different post-Flexnerian baccalaureate backgrounds, foregoiing the MCAT and allowing them to undertake a diverse and flexible array of undergraduate coursework.

The Humanities and Medicine Program at Mount Sinai School of Medicine

In partial answer to this challenge, a recent detailed report of the Mount Sinai School of Medicine Humanities in Medicine (HuMed) Program is worthy of consideration. The HuMed Program, founded in the late 1980s, sought to embody the essence of the GPEP principles. A portion of the medical school entering class applicants who were exclusively liberal arts majors were exempted from all the standard premed curriculum courses and omitted the MCAT examination. In this day of evidence-based decision making, it must be noted that this major decision was based on expert opinion alone.

Applicants to the HuMed program are college sophomores (and rarely juniors). Therefore admission decisions are based on high school and initial college freshman and partial sophomore grades and SAT scores. As important, however, are two personal essays, three letters of recommendation, and a listing of extracurricular (school and community) activities. Approximately fifteen percent of the applicant pool is invited for personal interviews at Mount Sinai.

The assessment process therefore involves two major elements.

1. In addition to excellent GPA performance, high SAT scores are admittedly crucial. Although the stipulated minimum score for each element is 650, in recent years the pool of applicants chosen for interview generally exceed 750 on average and those chosen for final admission to the program score over 750.

2. In the personal essays, interviews, and extracurricular evidence of personal interests and involvement, we seek evidence of rhetorical “skills defined by cogent, effective writing displaying originality, thorough research, sound analysis, and persuasive argument developed and sharpened” in a variety of activities. In the interviews we seek cogent, lucid, thoughtful responses—evidence of “competency in communication” to challenging questions. Finally personal activities should demonstrate depth of involvement and conclusive impact on some aspect of human welfare.

Accordingly, the HuMed selection process seeks to distinguish the self-initiating, self-directed, and independent
student from the equally intelligent, well prepared, but passive recipient of current knowledge.

Once accepted, students must maintain a college GPA of 3.5. Although they forego the full traditional requirements and MCAT, they are required to take and achieve a minimum grade of B in biology and general chemistry (two semesters each).

After completing their junior year in college, students are required to spend an eight-week summer term at Mount Sinai. This experience includes clinical service rotations in all specialties, seminars in medical topics (e.g., bioethics, health policy, palliative care), and an abbreviated course in the Principles of Organic Chemistry and Physics Related to Medicine (six credit hours for organic chemistry; two credit hours for physics). Students complete weekly examinations that are graded pass/fail.

During the summer prior to matriculation, HuMed students may attend an optional Summer Enrichment Program (SEP) that serves to acclimate incoming HuMed students to the medical school curriculum and environment. Approximately seventy-five percent of the matriculating HuMed cohort participates each year. The SEP curriculum includes overviews of biochemistry, anatomy, embryology, cell biology, and histology. Examinations are the self-assessment type and are reviewed in class. Students do not receive grades.

The first-year medical school curriculum is not altered to accommodate the HuMed students.

**Aims of the HuMed program**

This new program sought to encourage a group of applicants with an interest in the humanistic elements of medicine to consider pursuing a career in the profession. At a minimum, the program would result in a more diverse and enriched pool of potential applicants. Mount Sinai believed that these policies would eliminate the initial reluctance of these applicants to pursue medicine, typically based on an uncertain interest in science, concern over their ability to meet the high scholastic expectations of medical school admissions committees, and/or their unwillingness to divert the time and effort required to meet standard medical school requirements.

The keen awareness that premed students have of the competitive nature of the admissions process and the need for outstanding performance in science GPA and MCAT scores might induce them to cram for grades without appreciation of the science being studied. As a result, their retention of the information might only be transitory. Educators have turned “what should be a comprehensive meritocracy into a narrow minded and mean spirited ‘testocracy.’”

This narrow focus fosters other negative results:

- **Cultivation of true scientific curiosity is diminished as the satisfactions of scientific discovery are lost.**
- **Science is not presented as the portal of entry through which the wonders of biomedicine can be engaged. Rather it is distorted into a set of obstacles to be surmounted and functions solely as a filter through which medical school admission committees select applicants.**

But more important than simply enriching the applicant pool, HuMed was founded on the principle that a broad liberal arts education might supply the values, skills, and attitudes GPEP espoused. As such, a liberal arts education might enhance student appreciation and understanding of the range of characteristics describing the human condition, the context in which dysfunction, disability, and disease intrudes and distorts. It was felt that this benefit might be accrued from three elements of a challenging liberal arts background: amplification, self-discovery, and the development of professionalism.

- **Amplification**—Fiction at its best can depict in several hours of reading and reflection more about the nature of the human condition (that brew of joy, sadness, fright, relief, bewilderment, confusion, and pain) than the untutored, intuitive observations derived through the single, often imperfect lens of a maturing adolescent. Reading the best fiction as part of a colloquium led by an experienced preceptor/facilitator in a small group of able, interactive classmates identifies and amplifies elements that may be ephemeral in life, often unseen or unremarked. Focused insight through reading, discussion, and interpretation replaces and completes the surmised and the unexperienced. It gives meaning to a life-altering event and the needs of the individual(s) involved.

- **Self-discovery**—Not only does a liberal arts education prepare the student for what to look for in others, it also informs the sensitized and guided student of his or her own diverse reactions and sensitivities. It induces and expands personal scrutiny of one’s own preferences, prejudices, miscalculations, and ignorance. Under the best circumstances it expands the individual’s sense of self: what talents and resources one possesses and which need development, strengthening, and correction, all in preparation for a career dedicated to healing others.

- **Professionalism**—A liberal arts collegiate education, so often undertaken in a small-group faculty-facilitated format, reinforces awareness of the importance and benefits of productive interaction with others. These benefits are twofold. The best students will endeavor to hone the skills that maximize effective written and oral communication: conciseness, cogency, lucidity, and fluency. They discover and emulate those virtues in their most effective classmates, and they develop a personal style of interactive conduct of their own that leads to more successful subsequent interactions. Moreover the benefit of interdependence induces positive socializing behavior, personal control, ethical interactions, civility, and courtesy.

These are the essential elements of all human interactions, be they with patients or peers. Over time, students successful
in these encounters appreciate language and the methodologies and the targets of precise communication. They become as aware of the needs of others as they are of their own. In sum, the defining philosophy of HuMed posits that the result of such an education will be a receptive, interactive, communicative, and sensitive prospective medical professional.

Outcomes
The HuMed Program has been in place for over twenty years. A recent report in *Academic Medicine* reviewed outcome data for six graduating classes. The report compares medical school performance outcomes of undergraduate humanities and social science majors who specifically omitted all standard premed requirements and the MCAT with classmates who pursued the traditional premed science-based preparation. Using a Medical Student Performance Evaluation (MSPE) grid, the report compares academic data reflecting basic science knowledge, clinical performance, leadership, community service, humanism and professionalism, and research/scholarship of the two groups of students. No statistically significant differences were identified between HuMed and non-HuMed students for the following academic outcomes:

- USMLE Step 1 failures
- Exceptional performance on the end of third-year Comprehensive Clinical Assessment
- Honors grades in clerkship (except Psychiatry, where significantly more HuMed students received honors grades)
- School leadership
- Gold Humanism Honor Society awards
- Rank in the top twenty-five percent of the class
- Nomination to AΩA

HuMed students were significantly more likely (thirty-two percent versus twelve percent) to do a scholarly year dedicated to research and be awarded Doris Duke Clinical Research Fellowships (twelve percent versus three percent) There was a nonsignificant trend among the HuMed students (eleven percent versus seven percent) to graduate with Distinction in Research (first-author peer-reviewed publication). Notably, HuMed students were also more likely to require nonscholarly leaves of absence, typically for academic or personal difficulties.

Finally, although difficult to quantify, a trend was identified among HuMed students versus non-HuMed students towards residency choices in Primary Care (fifty percent versus forty-two percent) and Psychiatry (thirteen percent versus six percent), and away from surgical subspecialties (five percent versus twelve percent) and Anesthesiology (seven percent versus eleven percent).

The results provide evidence that for these HuMed students a significant reduction of standard premed requirements did not result in a limited ability to assimilate the basic science knowledge necessary for promotion to the clinical clerkship years, nor did it limit success in the clinical years either in clerkships, electives, clinical skills exams, research endeavors, or residency selection.

Discussion
The HuMed Program at Mount Sinai School of Medicine was designed to encourage application from students who were interested in the altruistic and humanistic elements of a medical career but were deterred by the rigid academic requirements.

Directly or indirectly, intentionally or not, the traditional requirements appear to be very effective barriers that limit the diversity of applicant premed preparation. Humanities and social science majors matriculating in U.S. medical schools in 2010 comprised less than eighteen percent of the total.

We believe however, these prerequisites need not be a barrier to dual-major collegiate education, provided the medical school has known policies that welcome, not exclude, such applicants. This has certainly been the case at Mount Sinai, where from the first entering classes in 1968 and thereafter the school has welcomed dual majors. In 2009, the proportion of these dual majors among the entering class was twenty-five percent, excluding the HuMed students, and almost half (forty-three percent) when HuMed was included. These nontraditional students had pursued a wide range of liberal
arts majors—music, history, theology, economics, and fine arts, among others. The number one student in the class of 2010 was a Religious Studies major, one of the top graduates in 2009 (AQA and currently a PGY2 in Medicine at Mount Sinai) a Dramatic Arts major, and the number one graduate in the class of 2008 a Music major. Finally, a member of the class of 2014 spent his entire collegiate career in the extremely competitive combined Columbia-Juilliard Performing Arts program studying and performing as a cellist.

This story does not always apply. Many students accepted to Mount Sinai via the HuMed program decide to pursue other, nonmedical careers. Case in point: one accepted HuMed student continued his interest in creative writing and is now a *New York Times* best-selling novelist!

As an experiment in educational philosophy defining the ingredients necessary for a career in medicine, the HuMed program clarifies the extent to which traditional courses in organic chemistry, physics, and mathematics are necessary for successful completion of a medical school curriculum. For example, we compared the USMLE Step 1 scores, Step 1 failure rates, and serious academic difficulty (defined as three course failures or two course failures and two marginal grades in the first or second year of medical school) for the HuMed and non-HuMed cohorts. These outcomes were respectively, Step 1 scores 221 versus 227, Step 1 failure four percent versus two percent, and serious academic difficulty 2.4 percent versus 2.3 percent. Only the Step 1 score difference was statistically significant.

More troubling is the higher rate for HuMed students of nonscholarly leave of absence (eleven percent versus three percent, \(P=.001\)). This may indicate that a very small number of students are troubled as they struggle academically with unfamiliar material (but do not fail) and require a pause before returning to school. Still others find they are unsure of their career choice. Mount Sinai addresses these concerns in a variety of ways: admission standards attempt to identify students with very high academic potential and intellectual “flexibility,” students who attend SEP learn studying and test-taking skills for the sciences, prospective students are strongly encouraged to take at least one year off before matriculating. We believe this does allow ample time for most to reflect on their career choice. Happily, HuMed students in this category return to school and graduate at a rate no different from their non-HuMed classmates.

HuMed outcomes suggest that no essential preparatory ingredient was missing by having had an extensive liberal arts college education at the expense of the traditional requirements and outstanding performance on MCATs. It is clear that a significant reduction of the traditional requirements did not result in either significant failure or significant inability to assimilate and apply the predoctoral basic science material in years 1 and 2, nor did it limit success in the clinical years either in clerkships or clinical skills exams. The HuMed students did not significantly fail the challenges of the basic sciences. In addition, they have performed as well, and in some instances better, than their premed classmates in the clinical years.

The success of HuMed over the years has had an unanticipated but gratifying impact on our medical school community. It has broadened the spectrum of criteria for admission for the entire pool of applicants. In addition, it has encouraged initiation and expansion of required and elective humanism in medicine courses within the medical school curriculum.

Finally and yet to be determined is whether the expanded liberal arts background obtained in a variety of experiences such as electives, community service, additional degrees, and personal avocations will lead these HuMed students to pursue successful, fruitful lifetime careers in the profession. Can follow-up ever accurately measure fulfillment and satisfaction? Will burn-out frequencies or incidents of unprofessional behavior be reduced?

Alas, incidents of immoral behavior occur in all elements of society. Those of us in medicine—as practitioners, educators, or investigators—are painfully aware of the egregious examples of criminality, addiction, mendacity, abuse, plagiarism, and bribery that have tarnished our profession. We have assumed, and continue to rely on, our ability to identify and weed out those with such tendencies as they emerge, however subtly, during the challenging and stressful years of medical school and residency training. Clearly, this process is an imperfect and deficient filter.

We invite the *Pharos* readership to suggest applicable measures we might employ to judge the long-term impact, if any, of the HuMed program on these students.

What can be said with certainty, however, is that such a
change in requirements does not adversely influence successful performance in a demanding and highly competitive medical school environment.

Summary

As the HHMI-AAMC declared, their report should be taken as a “first step in a continuing conversation about the appropriate skills and knowledge,” and, echoing the ACGME and GPEP, “values and attitudes that future physicians should possess.” As a new formulation evolves, the premedical curriculum must foster “scholastic vigor, analytic thinking, quantitative assessment and analysis of complex systems.” Based on the Mount Sinai experience, these qualities are not engendered solely nor confined to engagement in natural sciences. Students involved in a variety of baccalaureate liberal arts endeavors appear to acquire similar intellectual competencies. Furthermore, when performed successfully in challenging collegiate environments, a thorough liberal arts education may yield precisely the same values, attitudes, and behavioral characteristics all agree are essential to the medical profession and preparing physicians for the twenty-first century.

References

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Spread-eagled in full restraints, Donald Bates glares at me, a plastic tube in his throat connecting with a Bennett respirator whose dials dictate his breathing.

The lump under the skin of his chest, a Medtronic pacemaker since his November heart attack, clicks its seventy beats a minute.

Each night they debate their total control as he struggles to sleep—the respirator, heaving and sighing in a *whish thump* voice challenging him to live without it, the electronic genius inside his chest boasting its control of pump and flow to every organ needed to survive.

This morning he scribbles on a clipboard like a third-grade child, “Why are you doing this to me?”

Outside the CCU his family waits for my morning report. I avoid the clichés—they see in my eyes the news they expect to hear. I go home to fix a doorknob in the kitchen.

*Henry Langhorne, MD*
Each year since 1988, Alpha Omega Alpha, in cooperation with the Association of American Medical Colleges, presents four AΩA Distinguished Teacher Awards to faculty members in American medical schools. Two awards are for accomplishments in teaching the basic sciences and two are for inspired teaching in the clinical sciences. 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: Helen C. Davies, PhD; Joel M. Felnner, MD; William H. Frishman, MD; Aviad Haramati, PhD; Robert M. Klein, MD; John (Jack) Nolte, PhD; Jeanette Norden, PhD; James L. Sebastian, MD; Kelley M. Skeff, 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 2011 award recipients follow.

Richard L. Byyny, MD 
Executive Director

Gerald D. Abrams, MD
Professor Emeritus of Pathology, University of Michigan Medical School

In his more than five-decade career, Dr. Abrams (AΩA, University of Michigan, 1953) has educated nearly 10,000 students on the intricacies of pathology, and has been consistently rated the highest performing basic science faculty teacher at the University of Michigan Medical School. For much of his career, Dr. Abrams has contributed to the oversight, design, and modification of the medical school curriculum. In the 1970s, he developed a series of lectures in general pathology that in the 1990s was made an independent, permanent part of the first-year curriculum. Over the years, Dr. Abrams has adapted his teaching methods to incorporate advances in information technology. He developed an interactive CD-ROM to accompany a histopathology course he developed and later digitized the slides from the course to create a “virtual microscope” format to be used in teaching labs and on the Internet.
Dennis H. Novack, MD  
Professor of Medicine, Associate Dean for Medical Education, Drexel University College of Medicine

Dr. Novack (AΩA, Drexel University, 2001) has made significant contributions to the way in which academic medicine teaches and assesses physician-patient communications. He was integral to the development of an Internet-based clinical skills curriculum and more recently developed a complementary Internet-based assessment tool. In partnership with the American Academy on Communication in Healthcare and Drexel University, Dr. Novack led the creation of doc.com. Using text and video, doc.com demonstrates basic and advanced interviewing skills through more than forty modules tailored to various learner developmental stages. Dr. Novack also helped develop WebOSCE, which enables students to interview standardized patient-actors through videoconference and provides both immediate feedback from the patient-actor and a video of the interaction for further review, as well as links to doc.com and other sites that help learners enhance their skills. At Drexel, Dr. Novack created and directs the Physician and Patient course, which provides fundamental skills to first-year students, and also directs and teaches the doctoring curriculum for internal medicine residents.

Mark T. O’Connell, MD  
Senior Associate Dean for Educational Development, Senior Advisor to the Dean, Bernard J. Fogel, M.D., Endowed Chair in Medical Education, and Associate Professor of Medicine, University of Miami Leonard M. Miller School of Medicine

For more than a quarter-century, Dr. O’Connell (AΩA, University of Miami, 1995) has made numerous contributions in the areas of information technology, curriculum design, program development, and student initiatives. He established the Office of Biomedical Computing, one of the first microcomputer labs at a medical school, which allowed Miller School students to be among the first trained on MEDLINE. He pioneered the use of a controlled vocabulary to index the Miller School’s curriculum and then worked with the AAMC to develop the curricular database that was the forerunner of CurrMIT. Described as a consummate program builder, Dr. O’Connell was instrumental in creating a two-year satellite program at Florida Atlantic University. When the program expanded to four years, he helped develop the curriculum and oversaw all aspects of the accreditation process. His influence is felt throughout the Miller School, having been responsible for establishing the Department of Community Service, a student-run nonprofit that consistently achieves nearly one hundred percent participation, the Office of Professional Development and Career Guidance to mentor students, and the Physicianship and Professionalism Advocacy Program.

LuAnn Wilkerson, EdD  
Professor of Medicine, Senior Associate Dean for Medical Education, University of California, Los Angeles David Geffen School of Medicine

Dr. Wilkerson’s vision for medical education is one in which engaged learners and passionate teachers implement a coordinated and ever-evolving curriculum. For more than three decades, she has pursued this goal through the design of medical school curricula and enhanced faculty development. To ensure that UCLA’s students possess the competencies needed for modern medical practice, Dr. Wilkerson helped pioneer the Doctoring program. She also oversaw the creation of fourth-year “colleges”—learning communities that pair students and faculty to enhance career mentoring. Dr. Wilkerson directs the Center for Educational Development and Research, which helps faculty improve curriculum and fosters teaching skills and the use of technology. She is dedicated to faculty development, particularly as it relates to ambulatory teaching and problem-based learning. Dr. Wilkerson has been described as “a teacher of teachers,” whose “accomplishments and contributions to the field of medical education are colossal and profound.”
Reviews and reflections

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

Exploring Happiness: From Aristotle to Brain Science

Sissela Bok
Yale University Press, New Haven, CT, 2010

Reviewed by Stephen G. Post, PhD

In 1978 while I was at the University of Chicago, Martin E. Marty placed a hardback copy of Sissela Bok’s then new book, Lying, in my hand and said, “Read it!” Fortunately, his intention was non-remedial. In reading Lying, I discovered what it means to write masterful philosophical history for a wide audience while articulating a clear normative position that is balanced, not overbearing, and of value for the wider culture. Many remarkable books from Sissela Bok have followed, all of them making real conceptual progress on carefully selected topics that beg to be addressed across many sectors of society. But this newest book, Exploring Happiness, is Bok’s best ever. Why?

Methodologically, Bok has now positioned herself at the new interface between moral thought and the sciences, both social and biological. Here she glides with astonishing clarity through the works of philosophical, and even some theological, luminaries, picking and choosing her key figures with innovative diligence. But she is equally adept in her familiarity with key scientific findings on happiness as she engages with national and international happiness surveys, the genetics of “set point” happiness, evolutionary psychology, economic investigations of money in relation to happiness, game theory, neurosciences, pro-social behavior, social capital theory, positive psychology, and so forth. Those of us who believe that meaningful progress can best be made on big topics such as happiness only at such a dialogical interface with the sciences are of course delighted to see an eminent philosopher like Bok turning in this direction.

The astonishing thing about Exploring Happiness is that the clear and probing exegesis of the great philosophers is matched in quality by the penetrating analysis of major scientific investigations. Bok weaves these two strands together with precision and an ability to make the connections between domains of knowledge that would otherwise remain apart in separate academic silos, making real progress unlikely. She provides what is, in my view, the best example of integrative scholarship on happiness to date. This is therefore a book that any neo-Aristotelian, utilitarian, or Kantian philosopher will have to grapple with, and that any scientist interested in a deeper conceptual understanding of the “happiness” that they are investigating will have to read before focusing on methodological technocracies. Both the philosophy and the science are presented in a way that most lay readers will easily handle, and in her skillful, almost pastoral, style, Bok is able to make all this relevant to the reader on an existential level. It is possible to read this book and be transformed to some degree.

Bok is always an innovative thinker by virtue of her ability to pick important and timely topics, often ones that have not been handled before with much clarity. What do we mean by happiness? How much of it can be had in this life? How can it be measured? Is our happiness something for which we are responsible as individuals at some level, despite genetically shaped predispositions and personality types? How can we nurture it? Can happiness ever be lasting, or is it always fleeting and unstable? Do we always fear its loss? Is there any one view of happiness that...
trumps others, or should we be very cautious about such assertions? How does my “pursuit” of happiness pertain morally to your pursuit? Whose happiness are we ultimately responsible for, or can we be responsible for?

Exploring Happiness is great expository writing. Bok warns that the topic is extremely complex, and that we should not seek premature closure. She is clear in her conclusion that the pursuit of happiness needs to be morally circumscribed. After all, there are those who, like the al-Qaeda pilots who flew into the World Trade Towers, do great damage while pursuing their own visions of a promised eternal bliss. In other words, at some level, we do need to relate our individual pursuits of happiness to the notion of a shared or a common humanity rather than to some small fragment thereof, and we must be careful of arrogance.

In humility, Bok does not wish to prescribe any one vision of happiness, or to set out a method for achieving it. As she writes,

I have argued for the greatest possible freedom and leeway in the pursuit of happiness, subject to moral limits. There is no one view of happiness that should exclude all others, much less be imposed on the recalcitrant. But the pursuit cannot merely involve “choosing happiness” as many advice manuals propose. Pursuits of happiness that abide by fundamental moral values differ crucially from those that call for deceit, violence, betrayal.

One wonders, though, if this retreat from much objectivity in the pursuit of happiness really suffices. It is of course important that our pursuits of happiness be limited by some foundational and minimalist moral restraints. But are we not rightly tempted to encourage a view of happiness comprised by some set of goods pursued over the course of a lifetime, such as contributing to the lives of others, moral integrity, and nobility of purpose? The neo-Aristotelians and eudaemonists will no doubt engage in some critique of Exploring Happiness because it clearly constitutes the finest liberal (minimally prescriptive) analysis of happiness to date, and as such deserves very high praise indeed. It is normative not in asserting what happiness is, but in articulating procedural and minimalist contractarian moral restraints on its pursuit. Perhaps this is enough, for as they say, “hard lessons are learned hard,” and perhaps we can only teach ourselves how to pursue happiness well in all our idiosyncratic error. This book is highly recommended as the best liberal contractarian statement to date. But the neo-Aristotelians who are coming into dominance in many American universities will wish for a treatment of happiness that is in fact a little more prescriptive than what Bok offers. Perhaps they have met their match.

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Match Day: One Day and One Dramatic Year in the Lives of Three New Doctors

Brian Eule
St. Martin’s Griffin, New York, 2010, 272 pages

Reviewed by R. MacDonell-Yilmaz, MPH

When I approached Brian Eule’s Match Day, I imagined it might make an apt birthday gift for a good friend, a fellow third-year medical student. Given its focus on “a ritual that had grown more intense and anticipated than graduation itself,” as experienced by three young women—Eule’s girlfriend Stephanie, and friends Rakhi and Michele—I anticipated that it might offer a glimpse into our own fast-approaching futures.

The prologue depicts the tension of Match Day morning, leading up to the moment when envelopes across the country will be opened. It then leaves us hanging, stepping back to orient readers to the Match, complete with its origins and modifications. This history is truly enlightening: I had no idea that the Match computer resides in Washington, DC, and runs its annual algorithm to completion in less than ten minutes.

Subsequent chapters examine the application process and the nuances of applying to specific residencies, especially those offering more flexible lifestyles without a sacrifice in pay: the “R.O.A.D. (radiology, ophthalmology, anesthesiology, dermatology) to Happiness.” It also provides an honest look at what influences applicants’ decisions about where to apply and how to rank programs. One particularly compelling scene depicts Rakhi’s struggle to finalize her rank list hours before the deadline. She must weigh the program she has dreamed of for years against one at another university where her husband—who moved across the country, worked unfulfilling jobs, and weathered rejections from
graduate schools while she studied medicine—has just gained admission. This glimpse of a couple sorting through complex if-this-then-that scenarios, attempting to reconcile disparate personal goals with an entwined future, poignantly illustrates how this profession’s training taxes many lives beyond that of the trainee.

We arrive back at Match Day to learn the contents of the women’s envelopes and then set out with the newly-minted physicians as they navigate the challenges of internship. Along the way, Eule explains the controversies surrounding legal work-hour restrictions.

He also explores the difficulties of “finding time for a life,” especially for Stephanie, a surgical intern. In a rare moment of expressing his own feelings, Eule confesses how the strain of interns’ lives extends to their loved ones:

The problem with Stephanie’s schedule, in addition to the long hours, was the lack of predictability. . . . I could never tell what time she would get home from the hospital. And she never knew the four individual days she would get off in a month until that month’s rotation began. . . . It was impossible to make plans to see friends or family. . . . My resentment grew. pp135–36

Happily, we learn, she does find at least a smidgeon of free time—enough for their wedding at year’s end.

Throughout the book, Eule’s tone varies between journalistic and narrative. Using the former, he explains the Match and its permutations, including the Couple’s Match and the transitional year. His account of the infamous Zion case and the resulting Bell Commission are excellent as well; his words flow smoothly and authoritatively, easily capturing and maintaining the reader’s attention.

Much of the actual storytelling, however, is not handled as deftly. His narration of the women’s experiences lacks the spark of his journalism. It feels as if Eule is trying to convince us that his subjects are likeable and their stories moving, but the details are often forced and generic rather than unique and defining. He notes, for example, that Michele’s “keen awareness of fashion often led her to opt for a trendy hat, knit scarf, or big sunglasses” and that an end-of-year party is “sure to include drinking and celebrations.”

This tendency is especially frustrating in his depictions of the women’s medical experiences. For a practitioner, the incidents he highlights and his descriptions of them are neither earth-shattering nor revelatory—a medical student nervous about practicing blood draws with classmates, a surgeon snapping at an intern, a cancer patient refusing further treatment. I wanted to pull him aside and whisper, You think this is bad? You don’t know the half of it.

Admittedly, my irritation at his wordiness might simply stem from my own impatience, a trait Stephanie also possesses: “After hours of moving fast, of talking quickly and efficiently, she sometimes expected the same at home. If I answered a question in a round-about way, I could see aggravation in her eyes.” Slower sections of writing inspired similar aggravation as I waded along, eager to reach the next example of his journalistic prowess.

Overall, Match Day offers a fascinating history and fresh perspective on medical training from an author who, though neither practitioner nor patient, finds his life deeply affected by the process. Just as House of God serves as an unofficial handbook for medical students and residents, Match Day is an excellent guide for family and friends. Ultimately, I bought my friend a bouquet of flowers and passed the book along to my mother.

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We’re NOT Leaving: 9/11 Responders Tell Their Stories of Courage, Sacrifice, and Renewal

Benjamin J. Luft, MD
Greenport Press, New York, 2011

Reviewed by Richard Bronson, MD (AΩA, New York University, 1965)

Williamsburg Bridge, sun hits the train
As it rises over the city again.
Nobody speaks, everyone stares
Remembering all that used to be there.

“Brooklyn Train,” Lucy Kaplansky

My waiting room had a television attached to the wall. In the middle of morning hours, a nurse cried, “Come, look at this.” Against a blue, cloudless sky, I saw the tail of an airplane sticking out of the upper stories of one of the Twin Towers, surrounded by flames! Then the second jet, the realization that this was not an accident, the unexpected collapse of both towers, the horror and fear as the day went on and the magnitude of the attack became clear. It was a time of candlelight vigils, firemen and policemen marching to bagpipes at funerals, and photos of missing husbands, wives, sons, and daughters stapled to telegraph poles. Twin searchlights rose.
into the night for months, a reminder of what had been there. But the invasion of Baghdad, two lengthy wars, the economic crisis, and a major recession intervened. We largely lost track of the responders who were imprinted with the trauma of those days and have continued to lead their lives, altered by that experience. We’re NOT Leaving restores our emotional connection with that event, and the people who played a heroic role in the initial response to the attack and the subsequent clean up and reclamation. This is their oral history.

Created by Dr. Benjamin Luft, the Edward D. Pellegrino Professor of Medicine at Stony Brook University Medical Center and Director of the Long Island Medical Monitoring and Treatment Program, We’re NOT Leaving contains a selection of first-person narratives from more than 125 videotaped interviews. Many of these men and women are still recovering from the disaster. As Dr. Luft notes, “They suffer from post-traumatic stress disorder, nightmares, sleep apnea, anxiety, asthma, persistent cough, and in many cases, anger and disillusionment about how they were treated by a society that dragged its feet in responding to their needs when they became ill as a result of responding to the disaster.” He has recognized the necessity of remembering.

The book consists of thirty-two chapters (each an individual’s personal narrative), divided into five sections, and an epilogue. These sections, titled “Caught in the Collapse,” “Looking for Survivors,” “Recover, Recovery, Recovery,” “The Responders Need Help,” and “Renewal,” take us from the initial moments of the attack, before and following the collapse of the Towers, the experiences of early responders, the realization that there were few survivors, the search for bodies or portions of bodies, the work of dismantling the wreckage, and, finally, efforts to support those who worked on “The Pile” and minister to their needs.

Dr. Luft best describes these testimonies. “The stories are powerful . . . Their language is simple, frank, and descriptive . . . Although they speak of sorrow and pain, to me they are a source of celebration of the human spirit’s ability to transcend unimaginable hardships, and still maintain its humanity.” There is no better way of conveying what he means than to quote a few representative stories:

I was actually inside the building, near the escalators, when the Tower collapsed . . . And I was able to hold onto the doorway with my left arm. People blew by me and under me and through me. Only with one arm, did I hold on . . . there was utter terror . . .

. . . As we crawled out we saw people and we tried to help them and they were dead . . .

. . . Our radios didn’t work . . . I couldn’t call my command.

In the beginning, the first few days, it was very hard to get around. There were makeshift morgues around the place, and you could see people picking up body parts and putting them in bags and people crying. It was very sad and scary, I actually felt like I was in a war zone.

. . . We were working twenty-four hours a day, seven days a week. We were sleeping on the floor at 60 Hudson Street. We just take a nap, get up, and . . . It was taking its toll. A couple days without showering, everyone smelling, stinking.

I’m a psychiatrist . . . volunteer responder . . .

. . . We’re learning about all these physiological interactions between stress, depression, PTSD and heart disease and the immune system and other things that shorten lives . . .

. . . I think the press and the public look at it as though it was one event . . .

. . . But it was hundreds of events to any one person who responded.

I am very proud that in time of crisis, 9/11, that our church showed up and we stood there . . . We were there every day, 24/7, for eight and a half months. We served over half a million meals . . .

. . . and many days I would do blessings and last rites on body bags, and it meant the world to the workers to have the clergy in the site with them . . .

. . . They wore respirators instead of neckties and Kevlar suits instead of Brooks Brothers suits. So this was a community that was brought together out of love, through love and compassion and service. I like to describe it as a season of love.

When I started to read We’re NOT Leaving, I was concerned that much might be lost in transcription. This was not the case. There were times when I could not continue reading. It was too emotionally difficult, and I had to put the book down. There is a deep truth in these voices of people who placed their duty above their own personal health and gave everything they could give at a time when our country was attacked.

Dr. Bronson is Professor of Obstetrics & Gynecology and Pathology at Stony Brook University Medical Center and a member of the editorial board of The Pharos. His address is:

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2011 meeting of the AΩA board of directors

The annual meeting of the board of directors of Alpha Omega Alpha was held in Chicago, Illinois, on September 24, 2011. Present were:

Officers: President Rae-Ellen W. Kavey, MD, MPH; Vice President Donald E. Wilson, MD, MACP; Secretary-Treasurer C. Bruce Alexander, MD.

Members at large: Robert G. Atnip, MD; N. Joseph Espat, MD; Ruth-Marie Fincher, MD, MACP; Eve J. Higginbotham, MD; Douglas S. Pauw, MD; Don W. Powell, MD; Joseph W. Stubbs, MD, FACP.

Councilor directors: Richard B. Gunderman, MD, PhD, Indiana University School of Medicine; Sheryl Pfeil, MD, the Ohio State University College of Medicine; Alan G. Wasserman, MD, George Washington University School of Medicine and Health Sciences.

Student directors: Alicia Alcamo, MD, the Ohio State University College of Medicine; William E. Bynum IV, MD, University of South Carolina School of Medicine; Tonya Cramer, MSIV, Chicago Medical School at Rosalind Franklin University of Medicine and Science; Cason Pierce, MD, University of Texas Southwestern Medical School.

Medical Organization Director: John Tooker, MD, MBA, American College of Physicians.

Coordinator, Residency Initiatives: Suzann Pershing, MD.

National office staff: Executive Director Richard L. Byyny, MD; Assistant Treasurer William F. Nichols; Managing Editor Debbie Lancaster; Programs Administrator Judy Yee; Membership Administrator Lena Beavers; Controller Barbara Prince.

Absent were: Anne Mancino, MD, councilor director for the University of Arkansas School of Medicine, and Carol A. Aschenbrener, MD, of the Association of American Medical Colleges.

New to the board are: Eve J. Higginbotham, MD, elected to a three-year term as member at large; Alan G. Wasserman, MD, elected to a three-year term as councilor director; Tonya Cramer, MSIV, elected to a three-year term as student director; and Carol A. Aschenbrener, MD, elected to a three-year term as Medical Organization Director.

Retiring from the board are: Cason Pierce, MD; Anne Mancino, MD; Donald E. Wilson, MD.

Renewed for three-year terms are: C. Bruce Alexander, MD; Robert Atnip, MD; Joseph Stubbs, MD.

Constitutional changes

The board voted to approve the following constitutional changes:

1. Eliminate the office of Vice President
2. Add the office of President-Elect
3. Add the office of Immediate Past President

The relevant changes to the constitution may be seen on AΩA’s web site: www.alphaomegaalpha.org/constitution. html, Article V. Organization and Central Administration.

Dr. Tooker will chair a committee to explore further constitutional changes.

Elections

The following members of the board were elected as officers:

1. Ruth-Marie Fincher, MD, MACP, President
2. Rae-Ellen W. Kavey, MD, MPH, Immediate Past President
3. C. Bruce Alexander, MD, President-Elect
4. Joseph W. Stubbs, MD, FACP, Secretary-Treasurer

Two honorary members were proposed this year. Both were elected to honorary membership for their distinguished contributions to medicine. Profiles of these honorary members will appear in a future issue of The Pharos:

1. Thomas R. Cech, PhD
2. Martin George Tauber, MD

Reports

Dr. Kavey and Dr. Byyny presented their reports for the year, summarizing the year for AΩA programs, new medical school chapters, chapter visits, fundraising, the membership directory and database, communications and public relations, and staffing.
The financial review was presented by Mr. Nichols and Dr. Alexander. A presentation on AΩA’s investment program was given by Jennifer Ellison and Diana Lieberman of Bingham Osborne & Scarborough.

A report on The Pharos was presented by Debbie Lancaster.

Dr. Gunderman and former councilor director Dr. Gabriel Virella reported on the 2011 AΩA Councilors Meeting, held on September 22 and 23, just before the board of directors meeting. Drs. Gunderman and Virella chaired the meeting. A report on the meeting will appear in a future issue of The Pharos.

Dr. Pershing presented a report on the Residents Initiative project, which has resulted in the AΩA Postgraduate Award (see our web site for more details: www.alphamegaalpha.org/postgrad_award.html).

New business
Dr. Byyny discussed the possibility of AΩA support for a leadership development program. A committee chaired by Dr. Tooker will investigate the proposal and possible ways for AΩA to contribute to leadership in medicine.

Dr. Byyny led discussion on communication strategies and public relations outreach to members and the public. A Communications committee was formed, chaired by Dr. Atnip. A PR Committee chaired by Dr. Higginbotham was established.

Miscellaneous
The minutes of the 2010 board meeting were approved. A final budget was also approved. The 2012 board meeting will be held in San Francisco in October 2012.

Instructions for Pharos authors
We welcome material that addresses scholarly and nontechnical topics in medicine and public health such as history, biography, health services research, ethics, education, and social issues, as well as philosophy, literature, the arts, professionalism, leadership, and humor. 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 and a title page with the word count (or page count), return address, and e-mail address. 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. Electronic submissions are preferred. Send them to info@alphamegaalpha.org. Or send by mail to Richard L. Byyny, MD, Editor of The Pharos, 525 Middlefield Road, Suite 130, Menlo Park, California 94025.
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, 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. PubMed or MedLine citations are also acceptable. 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.
National and chapter news

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


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. Do not use Wikipedia as a reference.

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. The collection has been digitized and excerpts will be featured on AΩA’s web site in the future. A listing of videos available for loan as DVD or VHS tape can be found on our web site: www.alphaomegaalpha.org, or by contacting Debbie Lancaster at d.lancaster@alphaomegaalpha.org or (650) 329-0291. 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) 402-8818, e-mail nancy_dosch@nlm.nih.gov.

Letters to the editor

Re “AΩA and Professionalism in Medicine”

Your editorial in the Summer issue of The Pharos is very well done (Summer 2011, pp. 1–3).

Here is a brief passage from my file—to me it is a like expression of some of the points of your essay:

a voice that medicine can ill afford to lose—one of clearheadedness, unsentimental idealism, and the great wisdom of affectionate optimism.

—Hans Zinsser commenting on Francis Weld Peabody, circa 1928

I am 83, a retired G.P.—in my medical school days, we talked about learning “professionalism” from our revered teachers by “osmosis.” My sources were William L. Bradford, MD, and William S. McCann, MD.

Russell M. Lane, MD
(AΩA, University of Rochester, 1955)
Sunderland, Massachusetts

Re “The Light Switch,” Summer 2011, pp. 30–32

Thank you for sharing your unfortunate experience on the obstetric anesthesia service in The Pharos. That same thing happened to me on my last call night in anesthesiology residency sixteen years ago. I was
on overnight with one of the cardiac anesthesia attendings. Lucky, because it quickly turned into a cardiac case. Mother and one of the twins did not make it, the other twin survived. After three hours of resuscitation and open cardiac massage, we rolled the patient down to the hall to the ICU on fem-fem bypass. The look of the husband’s sobbing, anguished face is still seared into my memory. Then when Dr. Sheila Cohn, Chief of Obstetric Anesthesia at Stanford, came in at 6 AM and looked down at me with her wise, sympathetic eyes while I was writing my note, I just lost it. The diagnosis at the time was fairly obvious looking at the bloated, quivering right ventricle and studies later confirmed it: amniotic fluid embolism. But that didn’t make it any easier... my first intra-operative death, and my career had not even begun. And then the feelings of doubt and guilt. Of thinking over and over, was there something I did to cause this or could have done to prevent it? Maybe there was something more I could have done to save her? It had a huge impact on me as I purposefully chose a job that did not have obstetric anesthesia service despite really enjoying OB anesthesia during my residency.

Reading the beautifully written account of your experience on that fateful eight years ago helped me remember and reprocess my event. Thanks, I, too, still think about that incident and best regards.

Jeffrey Clayton, MD
(AΩA, Medical College of Wisconsin, 1990)
Department of Anesthesiology
Sutter Medical Center
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My wife and I really enjoyed reading your article, “The Light Switch.” It was an extremely well-written account of an incident that every physician fears and dreads facing in their professional career. One can only imagine your thoughts and reactions at the time, but your telling of your experience serves as an example of the compassion that all physicians should have towards their patients and families, as well as part of the process of catharsis that must come sooner or later if one is to continue to be an effective physician. Thank you so much for sharing what must have been a most difficult process for you and all others involved, including the family of your patient.

Roger A. Meyer, MD, DDS, FACS
(AΩA, Creighton University, 1975)
Greensboro, Georgia
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Thank you for your article. I am a practicing anesthesiologist in suburban Chicago. We graduated medical school the same year and I can tell our careers have much in common.

I recently cut back to part time practice, but OB anesthesia remains my most treasured work environment. You clearly captured the joy and potential agony of OB anesthesia and I empathize with you and your patient’s family.

A bad outcome in anesthesia is very painful for experienced practitioners like ourselves to accept, but is something we all must learn to live with. Your caring and open response to the family and situation provides a model for our profession.

I plan to share your most thoughtful article with my colleagues.

Thank you again for your contribution and best regards.

Ed Matthew, MD
(AΩA, University of Illinois, 1982)
E-mail: putuout@yahoo.com

Re “The History of Tracheotomy”

I enjoyed reading the article of Drs. Choby and Goldenberg on “The History of Tracheotomy” (Summer 2011, pp. 34–38). Their expose of the evolution of the procedure from prehistoric times until today is comprehensive and very interesting. I do take issue with their assertion concerning the death of George Washington which perpetuates the misconception that “the first President of the United States died of an acute upper airway obstruction secondary to a peritonsillar abscess.” p36 A review of the historical accounts of George Washington’s demise and the chronology of his symptoms suggests that his final illness was most likely adult acute epiglottitis. The clinical picture of a rapidly escalating sore throat, hoarseness, and respiratory obstruction is most consistent with this diagnosis. Even though a peritonsillar abscess causes sore throat and fever, it rarely results in significant airway compromise, especially in an adult, and is even more rarely a cause of death. A peritonsillar abscess in its natural history will usually rupture and self-drain prior to causing upper airway obstruction. As an otolaryngologist, I have seen many patients return to the Emergency Room in extremis a few hours after being diagnosed with acute pharyngitis and sent home on oral antibiotics, to undergo emergency treatment for acute epiglottitis.

I thank Drs. Choby and Goldenberg for their interesting presentation.

Elias Hilal, MD
(AΩA, American University of Beirut, 1970)
Chief, Division of Otolaryngology—Head & Neck Surgery
UPMC Mercy
Pittsburgh, Pennsylvania
E-mail: eliaishilal@msn.com
We sold all the furniture (of course lamps went first)
And are left sifting through dim rooms of inventory
  • Old Halloween costumes (and all of my clothes and all of his clothes)
  • Harrison's, Bates', Sapira, Nuland, non-medical books
  • Piles of dirty scrubs, piles of clean scrubs, all other piles
  • Business cards for various restaurants we have loved in the city

Evening: we sort by the light of laptop screens.
Our apartment collapses into discrete shippable units.

  Our French press, bread maker, fruit parer become Kitchen Box
  Our two-person tent, camping stove, hiking boots become Activities Box
  Our African masks, Brooklyn Bridge print, Quechua tapestry become Art Box

A photograph of our life is filtered, pointillized,
The finer points brushed into smudges, mere suggestions of our world
These last four years.

Sarah Buckley, MD
“the last master of resounding song, the gracious mouth by which music spoke has ceased to be.”
—Vienna, March 26, 1827

Thousands marched at the funeral and Anschutz gave his eulogy, but who will remember Andreas Wawruch, physician to the Maestro in his last illness?

Six years before his passing, I studied his sonata in A flat major, followed the notes into the depths of the man. And there, in the intermezzo, these instructions, “Adagio ma non troppo.” Had he only followed them!

But no—quarrels with housekeepers, noble friends, his publishers, the court. Then, the apologies. I knew it all.

His final days will forever be engraved on my heart—jaundice, the fluxes, his bloated abdomen. Thrice I called Seibert to tap him. Beethoven knew too well these tappings only palliative.

Finally, I had to write the words I had feared—“You are dying. Whom should I call for?” Next day, he was gone.

The funeral, the crowds left behind, I returned home to my Erard, again played his music—notes fading into darkness.

Richard Bronson, MD
Presenting the AΩA scarf

AΩA's new scarf highlights the society's insignia, based on the shape of the manubrium sterni. The center medallion features the Pharos lighthouse of Alexandria, one of the seven wonders of the ancient world, for which AΩA's journal is named. The borders are stylized DNA strands.

Scarves are 35 x 35 inches, of 12 m/m silk twill with handrolled hems. Four colorways are available as shown: red/black, turquoise/purple, peach/mint, and navy/lavender. Scarf design by J&J Designs of San Francisco.

$65

To order, send a check for $65 to: Alpha Omega Alpha, 525 Middlefield Road, Suite 130, Menlo Park, CA 94025
Or order online at www.alphaomegaalpha.org/store.html (Price includes shipping and handling)