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2010 American Society for Clinical Investigation Presidential Address Lessons of our fathers

Jonathan Epstein

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ASCI Presidential Address Supplement

First, let me begin by apologizing to Beth McNally, our vice president, to my mother and to my wife, and to all the other women who may be offended by the title of my talk today. I mean no insult or discrimination. Rather, I chose this title because I would like to dedicate my comments to the memory of my own father, Franklin Epstein (Figure 1), who was a long-standing member of these associations. Over more than 50 years, I don't believe he ever missed a meeting, and I grew up hearing the stories from Atlantic City and even visiting there myself as a child. My father was vice president of the ASCI in 1970 during the tumultuous days of Vietnam and stood at this podium when a vote was taken to denounce the war. He was on the editorial board of the JCI, and I note that his certificate for that service was signed by Paul Marks, the ASCI president in 1972 and the father of this year's Korsmeyer Award winner, Andy Marks. My father was sitting here in the audience three years ago when my election to the vice presidency was made public (Figure 2); he had been too polite to ask me or anyone else about the result of the ballot before it was publicly announced, and […]

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The heritage of my family is replete with contributors to academic medicine. My father-in-law, Jack Myers, was a member of these societies, president of the American College of Physicians, and one of Soma Weiss's three chief residents at the Peter Bent Brigham Hospital. Jack's wife, Jessica Lewis, a renowned hematologist, was one of the first women admitted to the ASCI. Jessica's father, Warren Lewis, was the editor of Gray's Anatomy for three editions, and both he and his wife were long-standing members of the Johns Hopkins faculty. I keep on my shelf my father's and my father-in-law's copies of Gray's Anatomy,

Figure 1
Franklin H. Epstein with his son Jon, circa 1964.

volumes edited by Warren Lewis (Figure 3). And I keep in my files the reprints and writings of these forbearers. While collecting these papers, I came upon Warren Lewis's original copy of William Osler's commentary on the Flexner report (1). At the turn of the century, as now, academic medicine and the entire biomedical enterprise stood on the brink of unparalleled reform. Osler, as you know, initially opposed the idea of full-time academic faculty. He wrote, in a letter to the president of Johns Hopkins University that was later made public (Figure 4), "The danger would be the evolution throughout the country of a set of clinical prigs, the boundary of whose horizon would be the laboratory, and whose only human interest was research, forgetful of the wider claims of a clinical professor as a trainer of the young, a leader in the multiformat activities of the profession, an interpreter of science to his generation, and a counselor in public and in private of the people, in whose interests after all the school exists." Note that Warren Lewis has penciled in the margin "bosh" and "grandiose idea" (Figure 5). Osler eventually came around and embraced most of the recommendations of the Flexner report, which remain the blueprint for the training of physicians in academic medical centers in this country. Then, as now, changing people's minds, convincing even the most brilliant minds such as Osler's, took time and persistent effort.

My comments today derive not only from my own experiences training in academic medicine, practicing as a cardiologist, and directing a basic science program, but also from a lifetime of conversations and interactions with past leaders and their colleagues. Being pimped on rounds as a medical student was familiar territory for me; it was pleasantly reminiscent of childhood dinner table conversations. I have grown up with the greatest respect for the methods introduced by Flexner for the training of physicians and physician-scientists, methods that have been tremendously successful for nearly a century.

But I also believe that we, as Young Turks and Old Farts alike, have a responsibility to periodically review our past, and to challenge our accepted norms. It is time, in my opinion, to revisit and modify the Flexnerian model and to simultaneously heed Osler's prescient warnings that seem to have been directed with stark accuracy at many a physician-scientist today. The issue of how we will train the next generations of biomedical researchers and practitioners stands, concealed perhaps, at the very heart of determining what role we will play in the health care debate that continues to evolve and will continue to occupy a central focus of popular concern. The extended health care debate will define how the public views not only medicine and doctors, but also scientific inquiry and investment and its relationship to society.

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Figure 2
Franklin H. Epstein with his son Jon at the AAP dinner, 2007.

The suggestion, which I will try to elaborate, that we examine and debate and enact bold new methods of academic medical training is also derived from my own life experiences. All of us who are active on the wards today will agree that the experience, the hands-on opportunities, and the intensity of responsibility and patient contact for medical students and residents is no longer what it was when my father and Jack Myers were training. Nor is the challenge to actively participate in mechanistic investigation routinely embedded in the daily practice of medicine in many of our academic hospitals. The slow but inexorable erosion of the central place of trainees in our academic programs, both as caregivers and as the focus of attention of the full-time faculty, was apparent to my father (despite his best efforts) and is apparent to us all. The reasons are multifactorial and include restrictions on resident work hours, concerns over malpractice litigation, shorter patient stays in the hospital, and intense pressure on attendings to see more patients and to provide more extensive documentation and thus to spend less time teaching. On most medical services, the rush to complete rounds and to simply admit and discharge all of the patients precludes the opportunity for a medical student to present even one complete work-up in detail, never mind the performance of physical exams or meaningful discussions of pathophysiology. Frequently, the team does not have time even to visit and to examine all of the patients.

The insidious restrictions and modifications of Flexner's model have been noted by others, but the true impact was not visible to me from my viewpoint as a medical professional. The widespread and pressing implications only became apparent when I had the misfortune to observe our present system firsthand, from the viewpoint of a scared and rather ill patient.

A recent reality TV show is entitled *Undercover Boss*. In it, CEOs are disguised and made to work at the ground level within their own organizations. They are, of course, shocked by what they see, and what they hadn't known before the humbling experience. Most of us, unfortunately, will one day have the chance to visit our health care systems from a new perspective, and I assure you that the experience will be revealing. I recommend it to our hospital CEOs and to our deans and department chairs.

Several years ago, at about the time that I was elected vice president of ASCI, I was diagnosed with stage III colon cancer. I was treated with chemotherapy, radiation, and surgery at several of our leading academic medical centers, and I am the fortunate beneficiary of the wondrous advances in multimodality therapeutics. I am alive, and I am grateful. The laboratory discoveries and clinical research achievements, many skillfully concluded by members of these societies, are real, and have literally saved my life. But I have a new appreciation for the anger and disappointment of the American public that is a powerful backdrop to the critical health care debate that has dominated public discourse. During several long admissions for sepsis, fever and neutropenia, intestinal obstruction, and the like, I witnessed our modern adaptation of the Flexnerian model from the inside. On one occasion, after a week on the medical ward service, I paged the junior resident. When she asked what was so pressing that I had to call her directly, I said that I had simply wanted to meet her before I was discharged later that day. My own unscientific observations while strolling the wards in my demeaning hospital johnny, and subsequently while attending on service, suggest that most residents spend at least 10 times as much time in front of a computer screen as with a patient.

As a patient, I was asked by many a secretary and orderly and nurse for my date of birth or medical insurance number, but I was never asked by a physician if I understood the prognosis, or if I was scared. When I asked the medical residents if there was genetic testing that might help to predict the likelihood that my children would be at risk for a similar disease, I was told that there probably was, and that my outpatient physician would surely fill me in. It has become maddeningly and dangerously easy to pass the buck to the next shift worker, the next consultant, or to the outpatient caregiver. "Patient teaching" has come to mean instructions about when to

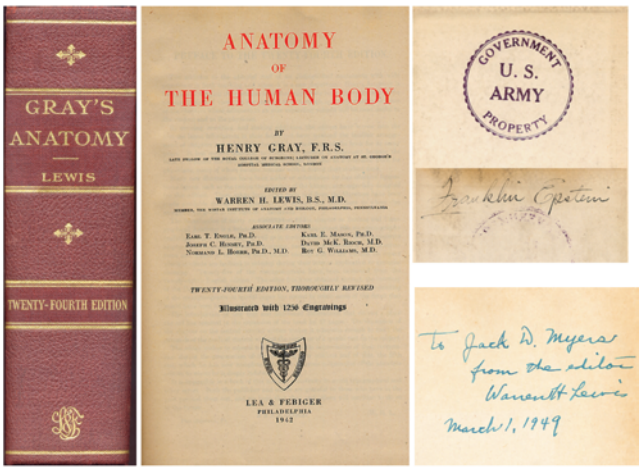
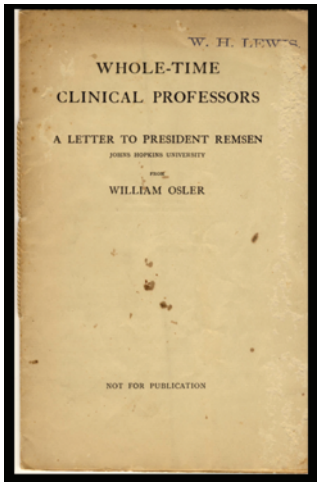


Figure 3
Gray's Anatomy.


W. H. LEWIS

WHOLE-TIME
CLINICAL PROFESSORS

A LETTER TO PRESIDENT REMSEN
JOHNS HOPKINS UNIVERSITY

FROM
WILLIAM OSLER

NOT FOR PUBLICATION

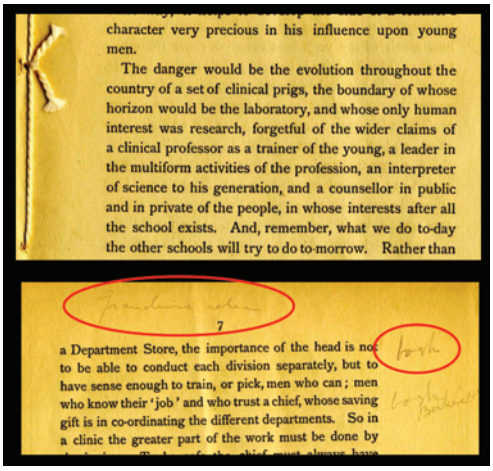
Figure 4
Warren Lewis's copy of Osler's letter to Johns Hopkins President Remsen commenting on the Flexner report.

take a pill and how to schedule an outpatient visit, and we as physicians have divested ourselves of this responsibility, leaving it entirely to nurses and social workers. I had no sense that I was on a teaching service or part of an academic mission. I was a cog in a high-throughput industry. It is no wonder that patients and the public have such poor understanding of health and disease, show increasing skepticism about physicians' motives, and question our huge investments in health care and biomedical research. We have the most poignant and powerful opportunities to affect people's image and opinion of our profession, and we largely ignore them. Outside of the hospital, in the purely public domain, we spend little (if any) time engaging the public. Was Osler correct? Have we forgotten to be "an interpreter of science to [our] generation, and a counselor in public and in private of the people, in whose interests after all the school exists"?

We as physicians need to reconnect with the public, and we need to begin the process at the bedside by examining and engaging our patients. We need to emphasize from the start of the training process that medicine is patient care. I believe it is time to consider innovative modifications of our clinical clerkships for medical students and of our residency programs that emphasize patient contact and clinical investigation. These programs should include rotations, wards, or services where the training physician is liberated from the computer and focuses instead on mentored learning and bedside clinical care. This service should be overseen by the chairperson of medicine, by chief residents, and by the very best clinician educators and physician-scientists. Order entry and the regurgitation of lab values and test results for the sole purpose of documentation should be performed by staff. This would be a true teaching service, with the focus on the patient experience, the patient as a person, on disease mechanism, and on the pursuit of new ideas for treatment and care. I suggest, for example, that a medical student assigned to a patient on this teaching service draw the patient's blood, accompany them to radiology and to other testing, and personally interact with consultants. The resident should be known to the patient, should be identified by the patient as their doctor, and should serve as the integrator of care amongst the many consultants and proceduralists who so often contribute to complex cases. Discussion should focus on how to improve patient understanding and delivery of care and how we might go about revealing new understanding of disease processes and therapeutics. This would necessarily involve exposure of clinical trainees to the latest advances in basic research and clinical trials and would require the active involvement of physician-scientists.

In the present system, the absence of physician-scientists who are active in medical education and on the wards contributes to the lack of role models for medical students and young trainees. Many of us who are successful in basic research forgo our roles as physicians and recede from the view of the medical services. Modern, efficient clinical programs favor full-time caregivers, and the high cost of malpractice insurance often makes limited attending schedules prohibitively expensive. Competition in the research environment, and intense pressure to maximize grant funding, encourages physician-scientist researchers, especially those who are most successful, to stay in the laboratory. Yet I believe that an important and often overlooked factor that dissuades those entering medicine from pursuing careers as physician-scientists is that they have entered medicine because they dream of being doctors. They see, at the other end of a difficult path, many of us giving up on that dream.

When my father was chairman of medicine and physician-in-chief at the Thorndike Laboratories and the Boston City Hospital, his job was largely to select and train the medical house staff, to recruit outstanding physicians and physician-scientists, and to direct clinical and basic investigation. Now, most chairs of medicine are consumed with financial concerns and are rewarded (or fired) based upon their financial performance. While many of the best chairs have doggedly defended time and energy for the academic development of their departments, these activities and skills are increasingly appreciated as secondary attributes. Many of the brightest rising physician-scientists, many of us, wonder whether the job of chair of medicine is attractive and whether it plays to the strengths of our training and accomplishment. In fact, I would argue that there is no longer a clear path of advancement for the successful physician-scientist that rewards both investigative accomplishments and successful engagement on the clinical service as teacher and role model. The fragility of the physician-scientist career path, and the dearth of new trainees taking this route, has concerned many aca-


character very precious in his influence upon young men.

The danger would be the evolution throughout the country of a set of clinical prigs, the boundary of whose horizon would be the laboratory, and whose only human interest was research, forgetful of the wider claims of a clinical professor as a trainer of the young, a leader in the multiform activities of the profession, an interpreter of science to his generation, and a counsellor in public and in private of the people, in whose interests after all the school exists. And, remember, what we do to-day the other schools will try to do to-morrow. Rather than

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a Department Store, the importance of the head is not to be able to conduct each division separately, but to have sense enough to train, or pick, men who can; men who know their 'job' and who trust a chief, whose saving gift is in co-ordinating the different departments. So in a clinic the greater part of the work must be done by

Figure 5
Warren Lewis's comments in the margins of Osler's letter.

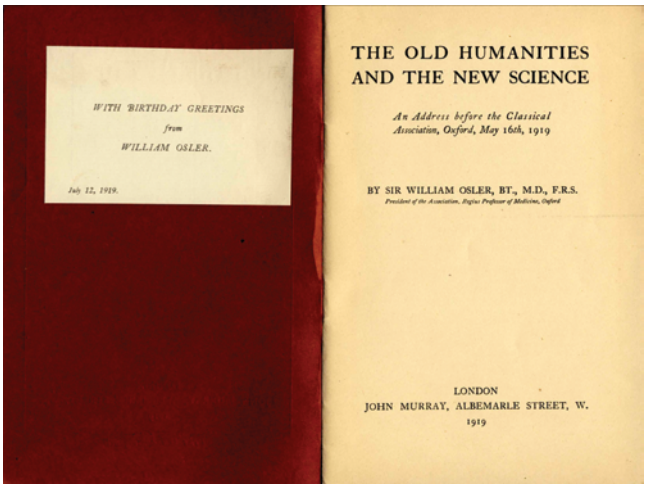

Figure 6
Warren Lewis' copy of Osler's address before the Classical Association, with a birthday greeting from Osler to Lewis.

demic leaders and ASCI presidents in the past (2, 3). Among the many contributing factors, we must include the ever-growing scarcity of role models who interact with young trainees on the clinical service in the way that was so influential and so successful in the past.

How then can we encourage a small cadre of mid- and senior-level physician-scientists to continue to be involved on the medical service teaching and caring for patients? Successful approaches have included teaming physician-scientists with full-time experienced clinicians or overseeing relatively small services. While these approaches help, they do not incentivize the physician-scientist to maintain clinical contact. The K awards from the NIH have been vital for supporting, encouraging, and rewarding young physician-scientists. I suggest that we work together to encourage the NIH to establish a new type of established physician-scientist career award that would recognize and fund outstanding investigator-initiated research performed by an established physician-scientist with a documented record of clinical education and patient care. The award would include salary support for a significant percent effort (perhaps 20%) devoted to education in the classroom and on the wards. This seven- or ten-year award, like a Merit award, would be considered a particular distinction and a goal for which our physician-scientists would strive. The existence of this honor would help to validate and justify the career choice of those who wish to pursue excellence both at the bedside and at the bench, and these individuals would serve as leaders by example for the next generation. I also suggest that institutions consider designating precious and prestigious endowed chairs specifically to support effort outside of the laboratory, time on the wards and in the classroom, for this type of role model. This structured support for a physician-scientist career track would help to stem the widening gap between basic investigation and clinical care.

The academic health care system in which we work is characterized by a growing tension between medicine as a business, where hospitals and medical schools function as high-stakes financial enterprises that must struggle to meet their budgets, on the one hand, and as academic refuges of inquiry and education for trainees, patients, and the public, on the other. We cannot deny the financial imperatives, and we must continue to respond to them if our institutions are to survive. Nevertheless, we are becoming a "Willie Sutton profession," scrambling hither and thither because "that's where the money is." Our areas of research inquiry are heavily influenced by the chance of obtaining grants or industry support in that area of investigation. Our clinical programs are driven by reimbursements. We reward opportunism at the expense of ingenuity and even at the expense of fundamental advance. We are encouraged and incentivized to procure funding over discovery.

There is an alternative. Rather than simply reacting to changing incentives dictated by society, we can more aggressively involve ourselves in the processes that dictate what is profitable, to command the incentives rather than merely to respond to them. We are in a strong position to do more than we are now doing. Physicians still retain significant trust and respect by the public, and members of these societies hold powerful leadership positions throughout academic medicine, in industry, and at the NIH. We can do far more to influence how and where the health care dollars (of which there are many!) are spent.

Several months ago, I addressed this issue in an editorial in the *JCI* entitled "The physician's voice in the health care debate" (4). My colleagues and I pointed out that the public discourse on health care has been dominated by politicians, raucous town meetings, and political action committees. Our universities and medical schools have not achieved significant visibility and certainly did not take a lead, and we as physicians have largely remained silent. Many who recall the rambunctious days of the '60s and '70s (days when my father was standing here tabulating votes denouncing Vietnam) have bemoaned the apathetic generations of youth who have followed, and I worry that we have become an apathetic profession with regard to our role in society. Engaging more actively in the public discourse, helping to inform society and to establish moral and factual guidelines, should constitute a larger component of the academic mission of our medical schools.

In 1919, William Osler wrote (in *The Old Humanities and the New Science: An Address before the Classical Association*) (5) (Figure 6): "The extraordinary development of modern science may be her undoing. Specialism, now a necessity, has fragmented the specialties themselves in a way that makes the outlook hazardous. The workers lose all sense of proportion in the maze of minutiae. Everywhere men are in small coteries intensely absorbed in subjects of deep interest, but of very limited scope . . . Applying themselves early to research, young men get into backwaters far from the mainstream. They quickly lose the sense of proportion, become hypercritical, and the smaller the field, the greater the tendency to megalocephaly." I fear this is a malady that may be familiar to many of us!

Nevertheless, I ask you to consider today whether we can each become more involved in fashioning our new health care system, whether we can strive to emerge from time to time from our particular backwaters of specialization and enter the mainstream. This may involve speaking or writing for the public, or perhaps simply refusing to give up the opportunity to speak with our patients and to actively serve as role models

Figure 7
Franklin H. Epstein, front left, and colleagues at an ASCI dinner at Hackney's Seafood Restaurant, Atlantic City, 1962.

for our trainees. This begins, I believe, with taking the time to examine our patients, spending time at the bedside. We should propose and enact new methods of training and of structuring academic medical departments that empower the physician as counselor, teacher, innovator, and investigator. We certainly have the talent amongst us to do so.

Each year, as I have had the opportunity to review nominations of the remarkable candidates for ASCI, I have been reminded of the tremendous talent that continues to be attracted to the difficult career path of the physician-scientist. The noble dedication to healing and to the pursuit of discovery that may cure disease and ease suffering continues to seduce many of the greatest young minds. And there is no doubt that it is the continued infusion of new ideas from energetic and innovative minds that fuels our progress. The imposing force of this impressive talent reminds me of a passage from the novel *City of Thieves* by David Benioff (6) that I believe my father would have enjoyed. It captures something of the romance of laboratory and clinical investigation, and also of the lurking fear that haunts many of us (a foreboding that I sense as the tenure of my active membership in ASCI wanes): "Talent" the passage reads, "must be a fanatical mistress. She's beautiful; when you are with her, people watch you, they notice. But she bangs on your door at odd hours, and she disappears for long stretches, and she has no patience for the rest of your existence: your wife, your children, your friends. She is the most thrilling evening of your week, but some day she will leave you for good. One night, after she's been gone for years, you will see her on the arm of a younger man, and she will pretend not to recognize you."

I wish each of you an enjoyable evening and a fine dinner where we may enjoy the talent all around us that would make my father, and all of our forbearers of these societies, proud (Figure 7).

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