

## You must be the change you wish to see in the world

### Society of American Gastrointestinal and Endoscopic Surgeons Presidential Address 2012

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Received: 20 May 2012 / Accepted: 7 July 2012 / Published online: 7 September 2012  
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I would like to thank the Society for the privilege of serving as your president (Fig. 1). For me, this is but a point on a journey, as I hand the presidential reins to Dr. Melvin. SAGES itself remains a *journey* I hope to continue with many of you for years to come; there is no actual destination. In partnership with other groups, this journey will help to define gastrointestinal (GI) surgery and surgical endoscopy for the future—a future that YOU will live in. If you have been in practice for a while, you can see the path that led you to where you are today complete with the potholes and wrong turns. I am sure that there were times you could not quite see your way. If you are now just starting out, I am sorry to say that there are no maps; the best you can hope for is a compass. My compass led me on a journey past three particular mentors: two cardiac and one trauma surgeon.

Michael DeBakey was legendary. He was a relentless taskmaster who pursued perfection in surgery for more than 70 of his 99 years (Fig. 2). Most of the stories associated with him, such as residents living in the hospital for two to three months at a time, are true. He lived and pursued excellence for himself and those around him. Those who did not measure up were shredded and fired. Kinder and gentler had yet to arrive in Houston in the early 1980s. The surgical residency pyramid was very steep for the seven chief resident slots. There were many casualties, but if you survived, you were reasonably fearless (for better or worse) in the operating room. He did not converse much with residents, but he loved to talk to the medical students about the early days of vascular surgery and making vascular

grafts on his wife's sewing machine (Fig. 3). He told our second-year medical school class, "You cannot learn to play the violin by reading the sheet music." He participated in more than 60,000 surgeries. It was awe-inspiring.

I stayed at Baylor for my surgical residency. Although he worked us into the ground, it should be no surprise that the vast majority of residents went into cardiovascular surgery. In fact, all of my fellow chiefs became cardiovascular surgeons, except me. I guess someone has to be the black sheep. My compass pointed to general surgery. I had seen an angioplasty in 1983 and decided that cardiologists would someday overrun coronary artery disease. It took awhile, but this year there are only 55 applicants for the 110 nonintegrated cardiothoracic residency positions. With this in mind, I went to the program director and asked to do an endoscopy rotation. He chuckled and told me I would have to talk to Dr. DeBakey if I wanted to do something like that. Dr. DeBakey sat behind his desk and looked up at the terrified third-year resident. I asked about endoscopy. He said nothing—he just went back to his work. I stood there speechless. The interview was over, but the next day I received a page from the Chief of Gastroenterology at the Houston Veterans Administration Hospital and spent the next few months learning how to "scope." Years later, I ran into Dr. DeBakey in a bookstore in Houston. We talked about endoscopy. He described training and working with Alton Ochshner and doing rigid endoscopy. That day one of the world's greatest cardiovascular surgeons told me that general surgeons were foolish for ceding the majority of endoscopies. He said we would need to relearn those skills someday. Thank you, Dr. DeBakey for your prescience. We'll get back to him later.

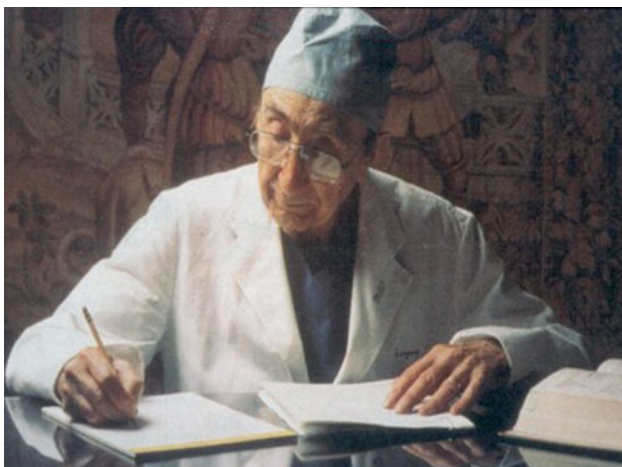
A few months after that endoscopy rotation, I was called to the operating room one day by the GYN chief resident who was peering down a laparoscope. He was bent over

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**Fig. 1** The presidential address was given without any word slides. This is the title. To view, use a QR code reader available built in or as a free application on most smart phones



**Fig. 2** Dr. Michael DeBakey sitting at his desk

like a contortionist pushing something around with a metal stick. Yes, it hard to believe, but we used to actually look down the telescope. It did NOT look like fun (Fig. 4). He wanted to show me the appendix. This is what I saw (Fig. 5). When I was asked if the appendix looked inflamed, I could honestly say I was not sure. Thus, when I first heard of laparoscopic cholecystectomy, my formative laparoscopic experiences did not make me enthusiastic about the prospects of ruining a perfectly fun operation—that is, until I saw the camera.

It was the camera not the “chole” that made laparoscopy a team sport. It was the camera not the “chole” that



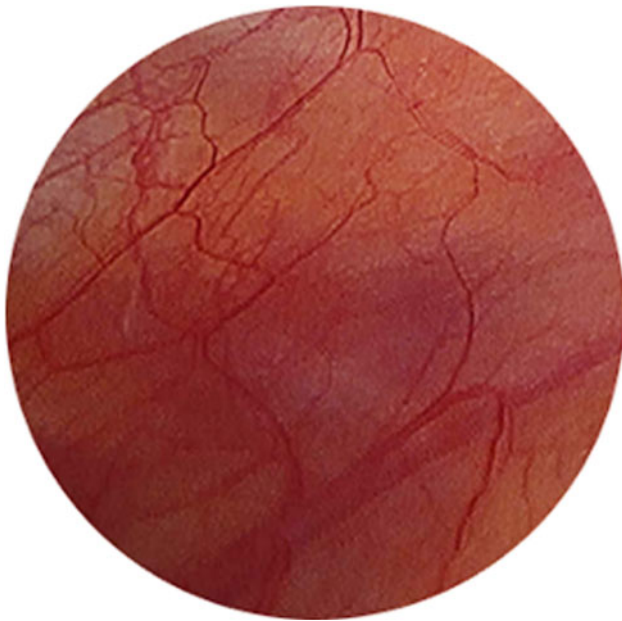
**Fig. 3** Dr. DeBakey sewing early vascular grafts used in research studies on his home sewing machine



**Fig. 4** SAGES member Dr. S-T Ko performing laparoscopy before the camera era

finally let me see the Appendix. It was camera not the “chole” and not even the laser that ignited a revolution, although the laser added an undeniable transient cool factor. It was the camera not the “chole” that *transformed* general surgery.

And so it was in October of 1990 I that was hoping that the local gynecologists would teach me how to do laparoscopy, but life’s a journey and a month later I was on my way in uniform to the middle east for Operation Desert Storm. There were million-dollar smart bombs, but no laparoscopes. When I returned from the war, my fiancé announced that she had matched for her residency out of state. So I walked into the office of another iconic cardiac surgeon, Richard J. Cleveland, to announce my departure



**Fig. 5** View of the abdominal sidewall as seen when the laparoscope without a camera is used. Small motion carries the intended organ out of field

(Fig. 6). His counter offer was life-changing. Despite never having held a laparoscope, the job of Chief of Laparoscopy was mine for the taking. The Ob/Gyn Department would offer a position to my wife for her second year, and my training would be arranged.

With choices in hand, I sought advice from David Feliciano—a renowned trauma surgeon and mentor from Baylor. He saw it as a great opportunity (thank you David



**Fig. 6** Richard J. Cleveland, MD, Former Chairman of the Department of Surgery, Tufts University School of Medicine

for sage advice.) Dr. Cleveland arranged for a local surgeon who was well ahead of the curve to come once a week for a year to mentor our laparoscopic cases. This may have been one of the first mini-fellowships in minimally invasive surgery (MIS). Dr. Cleveland, a former Chair of the American Board of Thoracic Surgery, deplored the weekend course-to-OR trend as laparoscopic cholecystectomy diffused into practice. So I took our model and did a 25-case mini-fellowship with every general surgeon who needed to be trained at New England Medical Center at the time.

Dr. Cleveland was the kind of surgeon who would sit all night at a child's bedside postop if need be. He took no short cuts. One day when he heard we were going to try some new laparoscopic devices in the OR, he called me into his office and began a most valuable lesson, which I would like to share with you.

Earlier in his career, he had wanted to use topical penicillin on the wounds of children with infected sternums. He told me about a day that indelibly changed him. I want you to imagine the scene. The sternum is open. You can see the heart beating and hear the sounds of the EKG. The ventilator continues rhythmically when the stopcock is opened and the penicillin is dripped into the wound. As he turns to leave, the rhythm suddenly breaks down and goes flat line. Fortunately, they were in the lab that day. The "Penn VK" used was essentially cardioplegia solution in this setting. Without testing, this would have been instilled into the chest of a small child. "Test everything you can before you inflict them on your fellow man," he said. You never know when the law of unintended consequence will rear its ugly head. I have never forgotten this lesson. For me, this is what the NOTES trial is about. Never, never, never assume (thank you, Dr. Cleveland for your wisdom).

In the 20+ years from then to now, if you are a techie like me, then you have marveled not only at how MIS techniques have transformed surgery but at the simultaneous technologic advancements that intertwine themselves into our practice. I would like to highlight a few things imagined by people who did not see the world as it was, but as it might be. Gene Rodenberry was one. He envisioned the cell phone (Star Trek communicator)—Number 10 on the National Geographic list of the 100 all-time scientific discoveries that changed the world [1]. This was actually invented by Martin Cooper in 1973. It revolutionized the way that we live and then was refined by Steve Jobs. We are free to move about (on call), take pictures, play music, look up information, but most importantly, it makes the world a smaller place. This is not simply an innovation, it is a *transformation*. Orson Scott Card wrote the award-winning *Enders Game* in 1985 [2]. He described students taking their lessons on tablets connected wirelessly to the classroom. That very year, my

monochrome “portable” computer weighed 28 lbs and had no hard drive—just 5-1/4-inch floppies. Mr. Card saw the future as it might be, and I am sure that someone in this audience has even earned a degree in this fashion. Even in 1865 Jules Verne wrote, “The phonotelephote will allow the transmission of images by means of sensitive mirrors connected by wires by 2889.” As the world gets smaller, this very address is being transmitted to a variety of sites around the world.

There are so many others. Cyrano de Bergerac described a space voyage to the moon in 1657. Michael Creighton described vein finder in 1969. Gallun described microsurgery in 1939. Philip K. Dick described rabbit paper for immediate pregnancy testing in 1963 and the robotic surgical hand in 1964. The list goes on and on, but my personal favorite was that Dan Simmons described internet addiction as early as 1989. Science fiction often becomes science fact; we innovate often ahead of the imagined schedule, but let me point out, innovations will not be enough. We must seek the Holy grail of *transformation*.

Almost every day there is a story, an article, or a blog chronicling the financial collapse of healthcare as we know it. Last fall, I opened the newspaper and was confronted by the yearly SGR (sustainable growth rate) headline: the magic number was 27.5. That meant a 27.5 % pay cut for physicians to balance the potential debt created by the SGR methodology. In February, the 14th yearly bailout was announced. Later, I was chatting with one of my colleagues who had just retired. He wishes the rest of us luck. He is a master surgeon who finally fell victim to his frustrations. The hassle factor for him now exceeds the reward of being a surgeon. He unloaded his disappointments with declining reimbursement, resident training restrictions, rising expenses, unfulfilled hopes of tort reform, and seemingly endless demands to transform the art of medicine into a series of rigid process, such as SCIP (Surgical Complication Improvement Project)-driven antibiotic administration. He wishes us luck and wonders who would be around to operate on him someday—will there be any general surgeons left?

Before we lament the passing of the “good ole days,” it is easy to forget that the good old days also are “the not as good old days.” For instance in 1982, a series of open appendectomies was reported by Sussman in the *American Journal of Surgery* [3]. The average length of stay was about 8 days with a complication rate of just under 20 %. If we fast-forward to the 2011 report in *The Annals of Surgery* by SAGES member Dimtri Oleynikov, we see that the superiority of laparoscopic appendectomy is demonstrated for simple and complicated appendicitis in a review of 40,000 patients [4]. Uncomplicated appendicitis is now an outpatient procedure, whereas the length of stay in this series for complicated appendicitis was 4 days when

performed laparoscopically. Consider Isidore Cohn’s 1966 report in the *Annals of Surgery* on 1,687 colon and rectal cancer cases [5]. The operative mortality was 12 % at the initial procedure, and less than half of the patients were subjected to curative resection. At the end of the 13-year study, only about a quarter of the patients were still alive. We have seen substantial reductions in operative mortality, length of stay, and 5-year survival even for those patients with colorectal metastasis, who were once given 6 months to live. The advances in leukemia and lymphoma management are even more startling. Do you remember 1989 when just being HIV-positive was a death sentence? Whatever issues we are having in health care reform would you really want to go back?

Yet, I remain troubled by his concerns on the future of general surgery. Has our profession moved forward with the same pace that medical miracles have? Is our training better? Are our graduates more competent than ever? This is certainly a complicated question, but why do people ask, “Why can’t Johnny operate?” A number of references suggest that the case numbers did not change with the advent of the 80-h work week? Maybe the problems go deeper? In 2002, SAGES member, Jay Prystowsky, reported in *Surgery* patient outcomes for segmental colon resection according to surgeon’s training, certification, and experience [6]. His group found that the outcomes in 15,000 admissions amongst 514 surgeons improved with Board Certification as well as experience. They noted that neither colorectal surgery training nor location of residency training correlated with outcome. This implies that even by the late 1990s considerable improvement in outcome occurred following residency completion. If outcomes improve after training, are our freshly minted graduates competent to operate across the broad spectrum of general surgery? The data suggest that the answer is, well, that depends. Dr. Prystowsky went on to study more than 120,000 patients in Illinois from 1996 to 1999 [7]. He found that outcomes varied directly with surgeon experience in high-complexity gastrointestinal cases; however, the outcomes for the more straightforward cases, such as cholecystectomy and appendectomy, did not vary with surgeon experience (at least before the institution of the 80-h work week). Clearly there were sufficient numbers of these latter cases to achieve a reasonable degree of mastery by graduation, but not so for more complex GI cases.

As we think about current surgical training, Dr. DeBakey would remind us, “You cannot learn to play the piano either just by reading the sheet music.” In the big picture, outcome depends on the integration of three factors, preoperative patient selection and preparation, technical execution combined with intraoperative judgment, and postoperative management (especially in the face of complications). Given our current training paradigm, the opportunity for the

surgical resident today to integrate all three of these phases into a single patient are uncommon. The sum of the experience is truly greater than each of the parts, and spreading these learning opportunities over several patients is not the same as managing a patient from start to finish, especially if there is a complication where the trainee can dwell on the cause and effect as we do.

In his book *Outliers*, Malcolm Gladwell popularized K. Anders Ericsson's work that 10,000 h of practice are required to achieve technical *mastery* of any skill [8]. Are we there? Assume for a moment that a resident spends 50 % of each week in the operating room, that is 40 h  $\times$  48 weeks  $\times$  5 years = 9,600 h. That sounds pretty good, except it is not reality. Raphael Chung, also a SAGES member, reported in the *American Journal of Surgery* that a detailed study of resident hours indicated only 2,700 h in the operating room and another 900 in pre- and post-operative management [9]. This leaves us more than 5,000 h short of our goal. Furthermore, we appear to have a case distribution problem, which casts the Pyrstowsky data in an interesting light. In 2005, Dick Bell et al. studied the 121 case types deemed essential by the surgical program directors—translation, the graduate must be competent (not master) to perform these cases [10]. For 52 % of these “essentials,” the mode of average experience was zero! Only 18 of these 121 procedures were performed more than ten times—that's where the cholecystectomy is an appendectomy come in. For 83 of these 121 essential procedures, the average experience was less than five cases.

Let's look at a common case—laparoscopic ventral hernia. Carla Pugh, another SAGES member, developed a laparoscopic ventral hernia simulator that assesses intra-operative judgment as well as skills. Her Northwestern group and Aurora Pyror (SAGES Research Committee Chair) from Duke tested eight senior residents; six failed [11]. This is sobering data. The good news is that performance improves with training. You can see the poster from some of their early work on SAGES iMages [12].

“Judgment comes from experience, experience comes from bad judgment.” Our residents seem to lack experience. It has not always been this way. That 1982 appendicitis paper demonstrated that residents had a somewhat shorter length of stay and lower complication rate than their attendings. There were specific case types in which independent resident operating was associated with good outcomes. The chief residents were anointed as instructors or junior attendings and entered practice with significantly greater independent experience than their modern counterparts. It is not just the case numbers that counts. Training value is a product of case number and case quality. The latter is becoming increasingly more difficult to achieve as we chop up the resident experience in a litigious world that

simultaneously hopes to squeeze as many cases as possible in a day.

So what happens? That is simple: more graduates do further fellowship or residency training. Even if you subtract out the future plastic, pediatric, cardiothoracic, and vascular surgeons, general surgery has become essentially a 7-year program and the scope of a graduate's practice is narrowing. No one goes into solo practice. Surgeons are heading for employment in medical centers or large community systems, such as ours. There are consequences to this. The funding for the noncolorectal GI fellowships is very soft and could fall victim to an economic downturn. These fellowships are focused on only a small slice of general surgery. The experience for the remainder of general surgery case types outside the fellowship is not enhanced. How many of these graduates can comfortably take night call when they finish their fellowship? In the long run, don't you think this seems a bit shaky?

Residents in training programs are like ping pong balls bouncing around in response to a variety of external forces. Ask yourself a hard question, would we design the system this way? In the big picture, there is no planning, no needs analysis, and no pipeline development, and the outcome measures are worrisome. How many colorectal surgeons or surgical oncologists do we need? We have no real idea. We can predict the future though. Albert Einstein, Famous Amos, and Yogi Berra all said the same thing, “If you keep on doing what you're doing, you will keep on getting what you are getting.” I don't think we want that. What we need are big, actionable ideas that we can rally around to incubate and nurture transformation. The ambivalence and the paralysis of analysis must NOT be our course.

I hope to leave you with seven big ideas of opportunities for the future. Some are things that we are doing today but need to do more, go further, and some will require us to change the way we think. We are not going back to the old days; we need to push on. We need to continue to *transform*. Today's surgeons are men and women no less dedicated to the art and science of surgery. They strive to maintain a greater sense of balance between work and life; therefore, we need to design the environment that meets their needs and establishes the pathways to surgical competency and on towards **mastery**.

- (1) We need a surgical training system that prepares surgeons for perhaps one of three real environments today's surgeon practices in.
  - a. The metropolitan, specialty-based general surgeon who practices with a narrow focus and is capable of managing high-complexity problems.
  - b. The community-based general surgeon who operates on low- and moderate-complexity cases across a broader case base.

- c. The rural surgeon who needs to be prepared to manage cases across a broad spectrum of general surgery and related specialties.

Does anyone really think we can get there with a one-size-fits-all homogenized training system? If we redesign the system, could we actually meet these differing needs in a 5-year span? I'd like to think so, but we will need to define the skills needed to achieve these goals. Does every resident need to learn how to do endoscopy? Should every chief resident do a Whipple or a Laparoscopic Nissen Fundoplication? I will go out on a limb and say no. The world has changed. The job has changed, and so the training must change. Residents will have to make choices, and perhaps the number and types of surgical destinations needs to be determined by a more thoughtful national/regional needs analysis. Consider all the young pilots who enter flight training. They all cannot become fighter pilots: some flight transport and some fly helicopters. The common theme is that they can all aviate, navigate, and communicate. The number of training slots available is determined by a needs analysis. Perhaps surgical graduates should have to do 2 years as independent operating general surgeons (find out who can really operate) before being eligible for specialty training (our version of Top Gun). Some may find themselves content to be a general surgeon.

(2) FLS is just a beginning.

We need to develop measures of competency and mastery for our basic skills and highest volume case types. The fundamentals of laparoscopic surgery (FLS) was the first surgical training program with a validated assessment of cognitive and psychomotor skills. It is now required by the American Board of Surgery to sit for the qualifying examination. This has been a hard-earned achievement by the FLS team, which has been led by Nat Soper, Lee Swanstrom, Jeff Peters, and now Gerry Fried, our soon to be president-elect. Other specialties, including gynecologists, urologists, and even the MIS spine surgeons, are working on their own versions of FLS. What we are seeing is a broad commitment to competency-based training and assessment. For that reason, I am especially pleased to announce that a press release has been jointly issued by SAGES and the American College of Surgeons formally recommending that all general surgeons who perform laparoscopy should become FLS-certified.

This also is what the fundamental use of surgical energy (FUSE) program is about. We all use energy devices in the operating room. How many of us understand how they work or how to troubleshoot the failures? There are more than 600 operating room fires and an incalculable number of skin burns and visceral injuries yearly. These are *all*

avoidable. I would like to personally thank Dan Jones, Lianne Feldman, Pascal Fuchshuber, and SAGES staff Jessica Mischna along with the entire FUSE team for their extraordinary hard work in making this program a reality.

(3) We must seek mastery.

Those who achieve **mastery** in any skill deserve recognition and perhaps compensation for having met this goal. We attempt to teach competency in our residences, but let me ask you when you got on the plane this week did you hope your pilot was merely competent or a master aviator? A great comment from this year's SAGES retreat was that competency is taught, but **mastery** must be sought (another journey). We need to acknowledge **mastery** and create pathways to allow each person to reach their maximal potential. To help us reach towards that, I asked SAGES to add a new journey this year and explore the possibility of developing a "fundamentals-like" program that is procedurally based. We selected ventral and inguinal hernia repair. These are common case types, and there are a number of excellent simulators that can be produced at low cost. As I mentioned earlier, there is significant room for improvement. When I asked Adrian Park to lead this task forces along with Carla Pugh, Melina Vassiliou, and Guy Voeller, I challenged them not only to work on measures of competency, which as you think about is a pretty low bar, but to incorporate a means of determining **mastery**. This is a tough assignment, but it is a journey in the right direction.

(4) Collaboration is not an option.

We are going to have to work together across societies, disciplines, and backgrounds. We must collaborate in order to move forward. There is not enough time or money to work in silos each inventing our own wheels. Unlike the Smartphone market where the upside appears limitless for now, the healthcare pie is fixed and shrinking. Collaboration is not easy, it requires a certain amount of "checking your ego at the door" to achieve the greater goal. SAGES' Fundamentals of Endoscopic Surgery (FES) was developed with the help of from members of ASGE. In fact, as we work with the American Board of Surgery to develop a curriculum for GI endoscopy, several groups have come together to develop the draft. Collaborating with the GI societies in particular will be critical to long-term success. We need their help to train surgeons at least for a while. In this country alone, we still do not screen all of the patients that we need to for colon cancer. Esophageal cancer is on the rise as well. As you move further away from metropolitan centers, more and more endoscopy is done by surgeons. We have to work together to solve these access problems. It is NOT a turf war; it IS a national health care problem.

The FUSE program is being developed by an extraordinary multispecialty ensemble. Not only are a variety of general surgery specialties represented, but there also is participation by AAGL, anesthesia, AUA, and perhaps most poignant of all is the strong support and participation by AORN. Energy injuries often are team failures; therefore, team solutions are needed. Collaboration is an intentional act. It should be no surprise to find that the Hernia Taskforce is ably led as mentioned before and has no less than five past presidents of the American Hernia Society. Finally, our partnership with the ACS on FLS is a critical example of collaborative leadership. In addition, last February I proposed to the leaders of the GI surgery societies with whom we conference regularly to move our mutual agendas forward and avoid needless duplication. I look forward to seeing what will come from this.

There are more reasons to collaborate and stay out of the silos as we develop these programs. Unless we have enough people all doing the same training, there is insufficient power to assess whether any given program is good enough to get to the one thing we really need: an improved clinical outcome. With my apologies to the reams of AC-GME paperwork required to obtain CME, we will not get there by grand rounds, textbooks, websites, or even post-graduate courses. We need validated training programs, and we need a new field, which I will coin for you today: “the comparative effective of training.” It will take thousands of people all doing the same thing to see if we can move the outcome needle. We will have to have the courage to adapt and rebuild if a program does not measure up. Actually, there is the one valuable lesson from SCIP antibiotic administration: when you force enough people to do the same thing, you can find out that it did not make a big difference.

(5) We must harness technology to the fullest extent.

We are surgeons and endoscopists in the Digital Age. For better or for worse (oh yes don’t forget the worse—like the despotism of your email!), the Internet and the graphical user-interface have *transformed* our world. Between Moore’s law, high-speed Internet, and ubiquitous fast WIFI, we are connected in the ways science-fiction authors only dreamed of—right now. Today, even inside SAGES, we conduct our business in a social media format. We Tweet, are on Facebook, have our own “APPs,” run a YouTube channel, manage a WIKI, and serve images all right to your PC, tablet, or phone (which by the way has more processing power than the computer that put the man on the moon). It’s overwhelming and it’s just a start. Do you ever get the feeling that you are drowning from the fire hose of data, yet at the same time starving for real knowledge. I know I do. We need help. It’s the same with our patients There is too much to know. Believe it or not,

we will need technology to manage our technology. I think help will come. Someday soon, I believe we will ask sophisticated questions to “smart systems” about our patients and get the benefits of collected wisdom organized in a more manageable fashion.

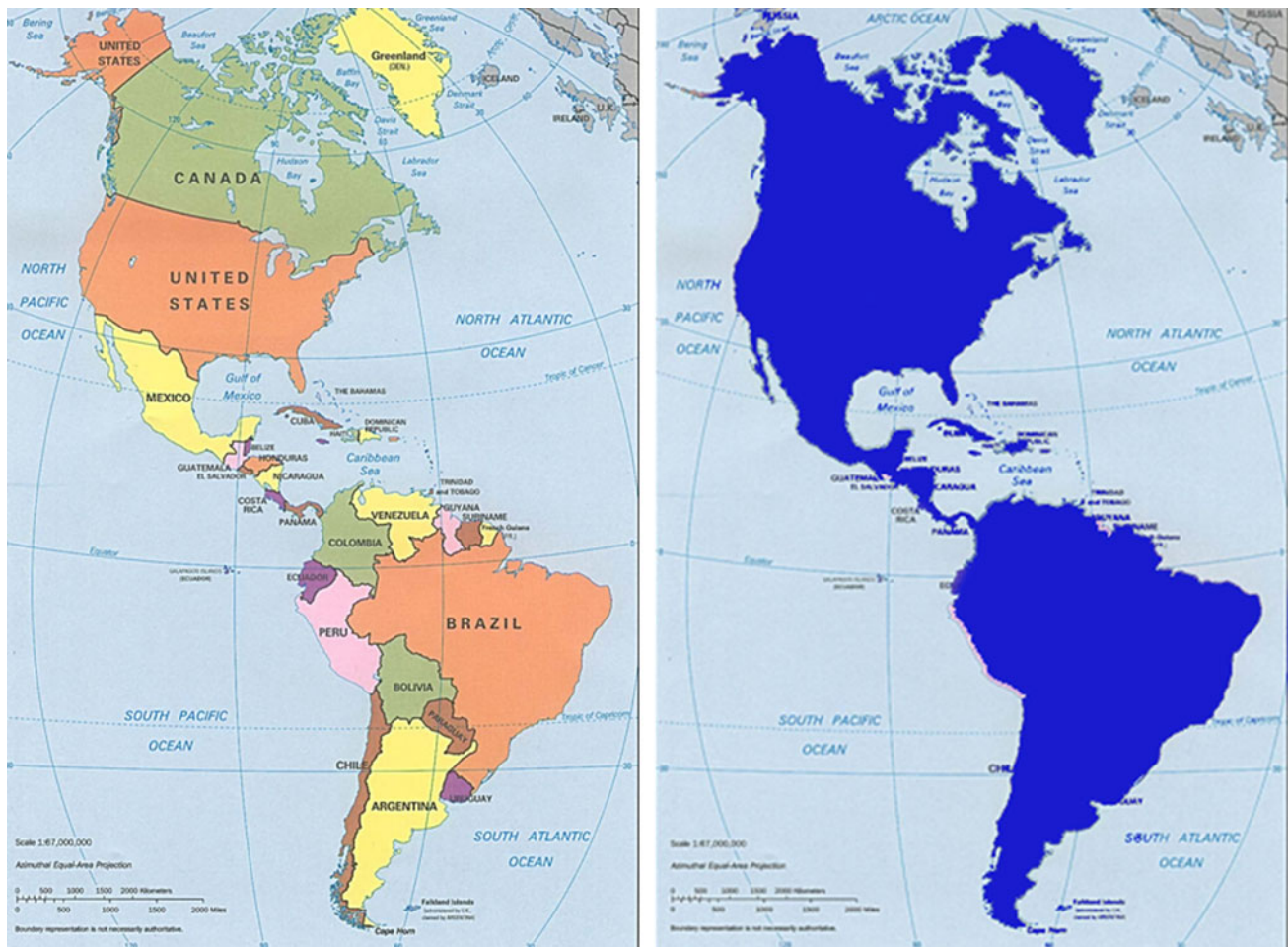
In this Digital Age, education is evolving rapidly. The future of print books and journals is uncertain. In some medical schools, there are students who never go to lectures in person. We deliver the didactics and then they take tests online. We watch surgery online. In time, online VR will adequately simulate our surgical environment and perhaps we will guide our future surgery online. We must understand and harness these tools today and perhaps use them in ways that we do not even imagine today. The Internet has made the planet a global commons of information and we need to adapt to it.

(6) The world is getting smaller. We now live in a global commons.

SAGES is the Society of American Gastrointestinal and Endoscopic Surgeons. There are a few ways that we can look at the word American. Here is one (see Fig. 7), but here is another: it starts from the top of Canada to the bottom of Chile. When we redefine “us,” we open ourselves to the possibilities of sharing ideas, training, and, most importantly, learning in ways not previously obvious (Fig. 7). Sure we can teach, but we also can learn a lot if we open our eyes and see how much really good frontline work others do right in our own backyard not to mention around the world, with so much less than we have at our disposal. NOTES has been a dramatic example.

Worldwide communication—it’s easier than ever now. Instantaneous mobile voice and video communication around the globe is a **game changer**. Look at what Allan Okrainic can do over Skype teaching FLS skills in Botswana (Fig. 8). Even the language barrier will fall soon with real-time spontaneous translation allowing us to really teach and learn from our colleagues around the world. This is not science fiction.

SAGES has many ambassadorial cards to play: our meeting where surgeons are welcome from around the world, our humanitarian efforts, the hands-on Go global activities, and our international symposium in Latin America, China, and Japan in the past few years. It is my opinion that we should reach out with our validated Fundamental Programs. For instance, this year FLS didactics and exams were given in the Middle East in English. We also are hard at work figuring out if we can translate, revalidate, build learning management systems, and teach in other languages, such as Spanish or Mandarin. We can make this a reality by harnessing cutting edge technology. This is right on the edge of technology: real-time spontaneous spoken word translation in the cloud over video



**Fig. 7** The left panel is the traditional maps of North, South, and Central America divided by countries. The right panel shows an alternate view of a consolidated “America”



**Fig. 8** Allan Okrainic, MD, teaching FLS skills to a surgeon in Africa over Skype video conferencing

conferencing—the closest thing to a universal translator in the world. The next step is speak back in Mandarin (maybe next year).

(7) Refuse to use age as an excuse.

With all of these changes how can anyone keep up? I hear all the time: I am too old to learn that or “that’s for the younger generation.” Do you want to know who is in the fastest-growing group on Facebook?—it’s your grandmother. Kids, get over it, you really don’t have a monopoly on the tech anymore. We might get there more slowly, but we’re coming all the same. It’s true in surgery, too. Just consider two surgical icons: George Berci and Michael DeBakey (Fig. 9). George is and Dr. DeBakey was still inventing in their 90s. If you are blessed with your health, you are not limited by your age, only by your attitude. In tribute to Dr. Berci’s lifetime of achievement, SAGES is dedicating a video documentary in his honor. I asked Mike Brunt to take up this challenge, and it will be finished later in 2012.

### Final thoughts

How often do you contemplate the enormity of the privilege bestowed on you as surgeons or endoscopists when





**Fig. 9** George Berci, MD, and Michael DeBakey still inventing in their 90s

your patient gives up their autonomy under sedation or anesthesia and you put knife to skin, trocar through the abdominal wall, or insert the scope? Whether through an incision or an endoscope, I still feel that first view is magical. Think of the gift of trust in service to your fellow man you have received. The technical skills can be taught, but the mantle of responsibility that each of you assume has been earned. You have toiled for years...long days, nights, weekends, holidays, anniversaries, and birthdays (yours and your family), no matter how hard it was to leave the house. How many sick days did you take in the past decade? Yes, we do work in teams and we do owe a tremendous debt for the fine work our anesthesia and nursing colleagues contribute to the care of our patients, but surgeons are the ultimate patient advocates. You stay to the end no matter how hard it is or how long it takes. Ultimately, you bear the responsibility for the outcome, facing the patient and the family when terrible things happen. You have earned and deserve the respect for the burdens you shoulder. Whether you do it with a scope or a scalpel, you display the creativity of genius to solve problems for which there are no books, no randomized trials, and often no time to debate the proper course of action. We can be so proud of these tremendous achievements, but we also have real work to do. There are many urgent needs and opportunities for improvement. There is no superman coming to save us. We will have to journey, build tomorrow's surgery, and in a few cases, rescue ourselves. This is what Gandhi meant when he said that you must be the change you wish to see in the world. The burden is on all of our shoulders not to succumb to the tyranny of the status quo.

We must design this future. Words, such as change or innovate, are simply empty battle cries; what we need, what we really need is *transformation*.

It will not be acceptable to hide in our ORs, or our endosuites. We owe it to our patients, our families, and ourselves to use those same gifts and that same commitment that we professed in our medical school interviews to create a better system. It will require our time and even our checkbooks to make this happen. I wonder if Mahatma Gandhi were alive today what he would say to us. I know he would not want us to rearrange the deck chairs on the Titanic and call it “change” while the iceberg looms nearby. I think he would alter my title a bit and perhaps suggest that change in and of itself is not enough and tell us what he meant was that we must lead *the transformations* that we wish to see in the world. To do that we will need to think differently and if we are up to the challenge, our *journey* just might *transform* our surgical world in small ways and large.

And now for the coda...

(To see the entire address and the coda go to <http://www.sages.org/video/details.php?id=103247>.)

**Disclosure** Dr Schwartzberg has consulting relationships with Stryker Endoscopy, Olympus, Surgique, CambridgeEndo, Acuity Bio, and is the PI of a Research Grant funded by Ethicon Endosurgery.

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