

Two Souls Intertwined

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Abraham Verghese's early work became the basis for his first book, *My Own Country: A Doctor's Story*, one of five chosen as Best Book of the Year by *Time* and later made into a Mira Nair movie. Such was his interest in writing that he studied at the Iowa Writers Workshop at the University of Iowa, where he earned a master of fine arts degree. Since then, his writing has appeared in the *New Yorker*, *Texas Monthly*, *Atlantic*, the *New York Times*, the *New York Times Magazine*, *Granta*, *Forbes.com*, and the *Wall Street Journal*, among others. His second best-selling book, *The Tennis Partner: A Story of Friendship and Loss*, was a *New York Times* Notable Book.

Today, in his writing and his work, he emphasizes the importance of bedside medicine and physical examination. His December 2008 article in the *New England Journal of Medicine*, "Culture Shock: Patient as Icon, Icon as Patient," clearly lays out his viewpoint. His book *Cutting for Stone* also addresses the issue.

It is a great honor to deliver the Tanner Lecture at the University of Utah. Mr. Tanner, in outlining his goals for the series, said he hoped that it would lead to a “better understanding of human behavior and human values” and that it might have “practical consequences for the quality of personal and social life.” I took his words to heart in choosing the title “Two Souls Intertwined.”



I will address the diad of the physician and the patient, a relationship that has interested me for a long time. I believe this relationship is sacred, timeless, and, in its ability to both do good and produce harm, unchanged since antiquity. In an era of unprecedented technologic and therapeutic advances that are coming at a pace unmatched in recent history, the patient-physician relationship is paradoxically under threat. Even as I promote a deeper understanding and a recommitment to the patient-physician relationship, I also propose taking advantage of technology to bring the patient-physician relationship to a new and better place.

DESTINY AND DISEMBODIMENT

Let me begin by sharing a personal story. I am a big believer in the quote “Geography is destiny.” I first heard this when I was in medical school, and it was taught to us as something that Freud said, speaking about the proximity of the birth canal to the interesting organs nearby. As a medical student, I thought that Freud’s statement was clever and profound. Imagine my disappointment many years later to find out that Freud did not coin the phrase—he was paraphrasing Napoleon. Napoleon, in saying “Geography is destiny,” was speaking about France’s position in the world. The origins of this phrase aside, it has been very relevant to my life: because I was born in Addis Ababa, the capital of Ethiopia, my destiny was completely different from that of my parents, who were born in the South of India. My parents hail from the state of Kerala in the Southwest of India, a lush land separated from the rest of the country (and historically spared many invasions and turmoil from the North) by the Western Ghat mountain range. This region of India is also called the Spice Coast. Arab traders in centuries past bought pepper—“black gold”—and other spices from Kerala and took them to Venice, selling them for huge profits. These traders were secretive about their source. Meanwhile, Europe was emptying its coffers to buy cinnamon, cloves, and “black gold.” It was only

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when Vasco da Gama sailed around Africa and finally ended up in Calicut, Kerala, that the source of the black gold became apparent to the West.

I visited Kerala a few weeks before this lecture. I was there in part to research my next book—the story of the Arab traders and Vasco de Gama is germane to the book. While in Calicut I visited a *kalari*, an ancient institution of martial arts that was used to train the warriors who defended the various princes and rajahs. Legend has it that a monk took this ancient form of martial arts from Kerala and introduced it to China. The practice continues in Kerala, and people come from all over the world to learn. But what makes a *kalari* different from your average *dojo* (where one learns karate or kung fu) is that the *kalaris* in Kerala have always been associated with the tradition of taking care of wounds, rheumatic conditions, and sports-related injuries. They are famous for a form of massage, done with special therapeutic oils.

I was there for the massage, but on the day I visited, there were many people—local and foreign—going through the drills in the *kalari*. There was a couple from Chile who had been there for two months with their son who had some form of muscular dystrophy and was improving with the massage. I was led into a room and handed a loin cloth. I waited for my therapist. According to the dictionary, a loincloth is a “one-piece male garment—sometimes kept in place by a belt—which covers the genitals and at least partially the buttocks.” I’m here to tell you it does not cover the buttocks at all. As I stood there, wearing this cloth, I felt very naked, exposed. I had a long wait and much time to think. What came to my mind as I stood there in my loincloth was the thought that we are all *embodied* beings. By that I mean we are not just soul or spirit floating around. We are soul or spirit *housed* in a body. Yet when you are in a doctor’s office, when you are dressed in a paper gown, or when you are dressed in a loincloth, one feels *disembodied*. I harked back to all the times that I had been in doctors’ offices, or I had been in the pre-op holding area waiting to have a thyroid nodule removed, a hernia fixed, or sinus surgery, and how each time I had that sensation of my soul and my spirit no longer being of much interest to anybody; my body had become the sole focus of attention. In that disembodied state, what one felt was a cross between being and extinction.

And then the massage began. It was unlike any massage I had ever had before. In the center of the room was a low teak platform, and on top of that a palm mat on which I lay facedown. There was a rope dangling from the ceiling for the therapist to hold, and once he had spread the hot

oil over my back, he began, with his feet—with his very callused soles—to massage, though the word *massage* does not convey quite what was being done. He was, for example, pounding my right buttock with the sole of his foot, then carried the motion up with a sweeping movement to my right shoulder, across to my left shoulder and then back down in a sort of reverse figure nine. There were many variations of this kind of thumping, sweeping movement with his feet and then his hands. He had me assume different positions from the standard prone or supine. At one point, for example, I sat, legs stretched before me. He then wedged his foot against my shoulder joint, and, grabbing hold of my hand, he seemed to lever open the joint. At other times I was squatting or kneeling. His method seemed very knowing and clever and quite intuitive.

When the massage was over, I felt wonderful. That is not surprising. There is recent sophisticated scientific work involving muscle biopsies showing that after vigorous exercise, massage was actually much better than anti-inflammatory drugs in restoring and recovering muscle function.¹

But my feeling “good” went beyond the muscle biology. I had walked into that room wearing a loincloth, feeling *disembodied*, feeling as though my body was now the locus of the attention and that I had somehow vanished from the consciousness of those around me. Yet in the course of the massage, in the course of the expert handling of my body by the therapist, I felt no longer disembodied. I felt very much *embodied*. In fact, to use a phrase coined by Peter Kramer, my colleague and friend who wrote the book *Listening to Prozac*, I felt not just well, but *better than well*. It was a strange reversal of the feeling I had just before the massage.

THE BODY AS TEXT

In the movie *The Pillow Book*, set in Japan, a father paints letters on his daughter’s body. She grows up reading from *The Pillow Book*—a sort of *Memoirs of a Geisha* of a tenth-century courtesan. She becomes obsessed with the body as a canvas for letters—the movie has some remarkable images of the body as text. It is an image that resonates for me with my sense of physicians needing to be capable of *reading* the body as text.

Our ability to read the body is fairly recent. It begins with Leopold Auenbrugger (1722–1809) who was a physician in Vienna in the eighteenth century. Auenbrugger’s father was an innkeeper, and the young

1. Nicholas Bakalar, “How Massage Heals Sore Muscles,” February 6, 2012, <http://well.blogs.nytimes.com/2012/02/06/how-massage-heals-sore-muscles/>, writing about a paper in *Science Translational Medicine* 4, no. 119 (2012): 119ra13.

Auenbrugger remembered his father tapping on the sides of the casks of wine in the basement to determine where the meniscus was and how much wine was left, and whether he should reorder. When Auenbrugger became a physician, he began to thump on his patients' bodies, particularly on their chests and abdomens. He was able to map out the outlines of the major organs and also map out abnormalities, such as fluid in the pleural space or consolidation of the lung. In fact, everything we know about "*percussion*," which is what we call this technique, came from Auenbrugger and is to be found in his book *Inventum Novum* (New Invention), published in 1761. It was a landmark moment in medicine. Prior to that, no matter what ailed you, no matter what your symptoms were, you went to see the barber-surgeon who cut you, bled you, purged you—and would pull your tooth and cut your hair for you, if you needed that too. The contemporary red-and-white barber pole speaks of that tradition of the barber-surgeon: the colors represent the bloody bandages, and the brass ends represent the receptacles in which the blood was collected.

Auenbrugger's discovery was the equivalent of the discovery of ultrasound, a moment in time when a physician could by examining the *outside* of the body discern what was going on inside, something that prior to that could be done only at autopsy. Shortly thereafter, in 1816, the stethoscope was invented by René Laennec. Prior to Laennec, people were in the habit of listening to their patients by directly applying their ear to the chest or the abdomen or other body parts. But as you can imagine, that method presented aesthetic challenges. Laennec, it is said, was walking down the street when he happened to see two children playing. One of them was scratching at the end of a long stick, and the other one was listening at the other end. It struck Laennec that he might use a solid piece of wood to carry the sound from the patient's chest to the examiner's ear. He called his first instrument *le cylindre*. He renamed it "stethoscope" after a few months, and it evolved into the current instrument.

The moment physicians began to carry their stethoscopes in their pockets was an important one. By doing so, they were signaling to the world that they were not barber-surgeons, but were instead committed to making an etiological, anatomic diagnosis. It was an important distinction.

What followed in a few years was the rapid development of many other techniques, including the ability to look in the back of the eye with the ophthalmoscope, the clinical use of the thermometer, the blood-pressure cuff, and other instruments. By the early 1900s, people were extraordinarily skilled at examining patients and predicting what was

going on inside. In the absence of CAT scans and other investigations, one would otherwise have to wait for the autopsy to know what was happening inside, and so clinicians became quite adept at reading the body as text, as best they could, during one's life.

We can still read the text and make quite astute deductions. For example, in a patient presenting with cough, fever, night sweats, and weight loss, we might find that the right upper part of his chest is dull to percussion: instead of a nice hollow sound of air in the lung, the sound is flat, suggesting that the right upper lobe of the lung has something other than air in it. On listening with the stethoscope, instead of hearing the normal distant breath sounds, what you might hear is a much harsher sound closer to the ear—"cavernous breathing"—with an aspirate quality. This would immediately suggest that the patient has a tuberculous with a cavity in the right upper lobe. Of course, in this day and age, it is much more likely that this would be discovered by a routine X-ray, and not the way I just described.

Or take the example of a patient walking into the room, and the physician at once notices something the patient does not: a subtle drop of the left eyelid, and the left pupil is smaller than that on the right side. The patient has no complaint about his eyes; indeed, he complains of cough and hoarseness of his voice. Yet as soon as the patient said "cough" and "hoarseness," because of what the physician notices in the eyes, he or she has already diagnosed a cancer of the left upper lobe of the lung. The explanation has to do with the innervation of the pupil by the sympathetic nervous system that makes it dilate under sympathetic discharge; the pathway begins in the hypothalamus, runs all the way down to the spinal cord, exits at the neck region, forms a little mesh work around the carotid artery, and then short branches, the short ciliary nerves, go to the pupil. This pathway can be interrupted in the chest by a malignancy, and the patient's complaints of cough and hoarseness (which speak to involvement of another nerve in the chest, the recurrent laryngeal nerve) point precisely to something being wrong in the apex of the left lung.

The following passage about the character Dr. Ghosh is from my book *Cutting for Stone*, and it reflects my own fascination with physical signs, with reading the body as text.² The narrator here is Ghosh's Marion, a young boy describing seeing a patient named Saleem in the emergency room.

2. Abraham Verghese, *Cutting for Stone* (New York: Alfred A. Knopf, 2009).

In Casualty, Saleem lay on the ground, too weak to sit or stand, semi-conscious. Adam, our one-eyed compounder, bent over the patient and, with one swift move, made the diagnosis.

Years later Ghosh showed me the correspondence he had with the editor of the *New England Journal of Medicine*, who was about to publish Ghosh's seminal series of cases of relapsing fever. The editor felt that "Adam's sign" was pretentious. My father, Ghosh, defended the honor of his uneducated compounder, Adam, at the risk of not being published in the prestigious journal.

Dear Dr. Giles,

In Ethiopia, we classify hernias as "below the knee" and "above the knee," not "direct" or "indirect." It's another order of magnitude, sir. Our casualty room often has as many as five patients prostrate on the floor with fever. The clinician asks: Is this malaria? Is it typhoid? Or is it relapsing fever? There is no rash to help sort this out (the "rose spots" of typhoid fever are invisible in our dark-skinned population), though I will grant you that typhoid causes a bronchitis and a slow pulse, and people with malaria often have giant spleens. I would be remiss in publishing a paper on relapsing fever without providing a clinician a practical way to make the diagnosis, particularly in settings where blood and serum tests are hard to come by. The clinician has only to grab the patient's thigh, squeeze the quadriceps muscle, squeeze it hard: Patients with relapsing fever will jump up because of the otherwise silent muscle inflammation and tenderness that is part of the disease. Not only is this a good diagnostic sign, but it can raise Lazarus. This sign was first noted by Adam, my compounder, and it is deserving of the eponym, "Adam's sign."

I could testify to Adam's sign—Saleem yelled and leaped to his feet when Adam squeezed his muscle. The editor wrote back. He was pleased with all the other revisions, but Adam's sign remained a sticking point. My father held his guns.

Dear Dr. Giles,

There is a Chvostek's sign, a Boas sign, a Courvoisier's sign, a Quincke's sign—no limit it seems to white men naming things after themselves.

Surely, the world is ready for an eponym honoring a humble compounder who has seen more relapsing fever with one eye than you or I will ever see with two.

FAILING TO READ THE TEXT

We now have the ability to confirm almost instantly what is going on inside the body with CAT scans, angiograms, echocardiograms, and other tests. It is the sort of thing our forefathers needed autopsies to confirm. It would be reasonable to assume that physicians' bedside diagnostic skills would be a hundredfold better at the bedside now than in the days of Auenbrugger or Laennec, because of this instant feedback. Alas, the ability to make simple inferences at the bedside is on the decline.³ To overlook what should not be overlooked leads to a subtle kind of error that only another physician might recognize, that is, if the mistake is recognized at all. Overlooking, or misreading, what the body text is revealing leads to unnecessary use of radiation and contrast, unnecessary hospitalization, unnecessary surgery, and even death. I sometimes worry that if one shows up at a modern American hospital missing a limb, no one would believe this until the CAT scan, MRI, and an orthopedic consult confirmed the fact.

We are spending more and more time in front of the computer, particularly in the hospital, and less and less time with the patient.⁴ At times it feels as if the patient in the bed has become almost a mere icon for the real patient who is in the computer. I've coined a term for that entity: the *iPatient*. The *iPatient* is getting wonderful care all across America; the real patient often wonders where everyone is, and what is going on. It is a disjunction that I'm hoping, in time, we can address.

RITUAL

There is actually much more to the examination than just diagnostic information.⁵ It is a remarkable thing when one human being comes to another and tells them things they might not tell their spouse, their preacher, or their rabbi. And then, incredibly, this individual disrobes and allows touch, something that in any other context could be assault. This

3. John Kugler and Abraham Verghese, "The Physical Exam and Other Forms of Fiction," *Journal of General Internal Medicine* 25, no. 8 (2010): 756–57.

4. Abraham Verghese, "Culture Shock: Patient as Icon, Icon as Patient," *New England Journal of Medicine* 359, no. 26 (2008): 2748–51.

5. Abraham Verghese, "A Touch of Sense," *Health Affairs* 28, no. 4 (2009): 1177–82.

kind of interaction between two individuals has all the hallmarks of a *ritual*. The ritual aspect of the examination goes hand in hand with other aspects of the exam.

Some time ago when I was attending on the wards, the house staff had admitted a woman from a nursing home who had been transferred because the nursing home staff thought she had had a seizure or some alteration of her mental status. She was admitted and a CAT scan was done, along with various other investigations. By the morning when I came to see the patient, there was no clear explanation for what had happened, and she had reverted back to baseline almost as soon as she got to the hospital. As I was about to enter the room to see the patient, my senior resident warned me, "The patient's daughter is an attorney. She's really unhappy about the fact that we're talking about sending her mother back to the nursing home today." I could understand her concern. After all, the patient came in the previous night, and now when the daughter showed up, the first thing she heard was, "Everything's fine and we might send her back."

I walked into the patient room with this knowledge, but I did not try to address it at once. I introduced myself to the patient and to the daughter. After taking more history, I proceeded to do a quick but thorough neurological examination, which involves testing the patient's muscle strength, eliciting all the tendon reflexes, checking her sensation, checking her cerebellar function. When I was done, I turned to the daughter and said, "I'm really pleased your mother on my exam seems to be doing very well. The CAT scan and the blood tests we've done all suggest she's doing quite well right now. We're not entirely sure what happened yesterday, but we do know that she's not had an obvious stroke. She has no sign of infection or heart arrhythmia. We're thinking of sending her back to the nursing home today." And the daughter said, "Okay."

I had been prepared for resistance. We were all surprised at the daughter's reaction. Later, as our team discussed what had happened, it seemed to us that even though the CAT scan had more information on it than my neurological exam could have discerned, it was important for the patient and the daughter to have seen me—the attending—examine her and confirm that all was well. The *ritual* of the exam was an important way of connecting with the patient, getting trust. The ritual done well gives one the authority to speak and have the patient have faith in what is being said. I could not have simply walked in there and stated, "The CAT scan looks

all right. Ninety-nine percent of the time that means that nothing else is going on. We are sending her home.”

Rituals are all about transformation.⁶ We engage in rituals in order to signal a change of state, a transformation of some sort. We marry, for example, with great pomp and ceremony and expense to signal our departure from a life of loneliness, misery, and solitude to one of eternal bliss (or so one hopes). We signal the end of a life with equal ceremony. We signal the passing of political power from one person to another with a ritual. I find that teaching our medical students the ritual of a skilled exam has much in parallel with teaching other skilled crafts. One cannot learn it off a website. It involves an apprenticeship; it involves one-on-one teaching. During the apprenticeship, the apprentice models everything the master does. Unfortunately, they model good and bad things. If the master is not in the habit of carrying a reflex hammer or carrying an ophthalmoscope, then the student also does not do that. If a master drapes a stethoscope over their neck like a mating symbol, the students will also do that. If the master is thorough, compulsive, caring, and empathetic, the students will quickly model that behavior as well. The apprentice models the language of the master, and it is full of strange, exotic terms, including Latinate terms that are mysterious to the patient. This may not be a very efficient way of teaching, but if the craft is not taught, it will die out; it will disappear.

And symbolism abounds: The physician wears a white coat; the room in which the examination takes place does not look like a room in your house or mine. The furniture is quite different, and there are things on the wall—diplomas, ophthalmoscopes, otoscopes—that signify the long journey the physician or shaman has taken to reach this place.

When the ritual is done well and when the patient is examined well, a couple of things happen. First, one might make a rapid diagnosis—indeed, much of dermatology rests on this kind of diagnosis, but the same is true for many other medical conditions; even if one does not make the diagnosis, the exam allows one to perhaps narrow the possibilities and judiciously order tests based on the history and the careful exam. Second, when we examine the patient in great detail, we are acknowledging the personhood, the *embodied* identity of the patient. It was what the massage therapist had done with me in the *kalari*—confirmed my embodiedness.

6. Abraham Verghese et al., “The Bedside Evaluation: Ritual and Reason,” *Annals of Internal Medicine* 155, no. 8 (2011): 550–53.

THE FUTURE

I lived and worked in El Paso, Texas, for eleven years. I worked at the county hospital, and the experience made me a much better clinician. My patients were Spanish speaking for the most part, and I picked up serviceable hospital Spanish. I recall a patient I saw there, a young laborer. He gave an address from El Paso, but we thought he was actually from Juárez or Chihuahua. He came with severe abdominal pain and high fever, and he was acutely tender over his liver, in between the ribs. It was such a characteristic picture that even before the CAT scan, we were quite suspicious that he had an amebic liver abscess. The finding was confirmed by CAT scan, and I explained to the patient, as best I could, what was going on.

We began treatment for amebic liver abscess, and the patient by every measure we could think of was getting better: his fever was coming down, and his white blood count was getting better. Yet every day when I went to see him, he did not *look* better. He looked anxious and worried, and nothing we were saying would reassure him. Finally, I went down to Radiology and brought up his films. I showed him the initial CAT scan from when he had come in, very sick, and then the one after treatment, which showed marked improvement.

It was cathartic for him to see the images. I would go so far as to say it was an epiphany of sorts. To an unschooled laborer, words like *abscess* and *liver* may result in a very vague idea of what is going on. To see the image—*his* image, *his* liver—was to make it concrete.

It occurs to me that there is a real opportunity in this era of digitized images to take all the images we have—MRIs, CAT scans, everything that resides somewhere else—and somehow restore them to the patients. They are, after all, the patients' images. Would it not be fair on our part to make sure—without scaring them, without terrifying them, without making them hypochondriacs—that they see and digest what belongs to them?

I saw a Web video recently that reminded me of the potential of technology. It was titled *Can Augmented Reality Save the Printed Page?*⁷ It showed a person holding a special book in front of a computer with a webcam, and as she turned pages on the book, interesting visual things happened on the screen of the computer. The authors created this as sort of an art project, but the potential is quite amazing. The name for this is “interactive reality.”

7. <http://mashable.com/2012/02/03/augmented-reality-book-between-page-and-screen/>.

It makes me think that in the future, we should surely be able to stand the patient in front of a large computer screen that has a mirrored surface. After taking their history and doing a thorough exam, and particularly after we have ordered various tests, it would seem to be natural to present the results back to them, to circle back to the beginning. By standing a patient in front of this screen, could we not project onto this screen their own echocardiogram, their own CAT scan, their own MRI, and take them through a guided tour of their body? We might leave them more embodied in a sense than when they came in, with better knowledge of who they are.

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In an era of tremendous advances in technology, the physician-patient relationship must be preserved, protected, and held sacred. Conscious efforts to keep technology from distancing us from the patient are necessary. Technology might be part of the problem, but it also might be part of the solution, allowing us as patients a better understanding of ourselves and of our being.