



*Writer, M.D.*

*The Best Contemporary  
Fiction and Nonfiction  
by Doctors*

*With a  
Foreword by*  
**Jerome  
Groopman**

*Edited by*  
**Leah Kaminsky**

**Ethan Canin  
Pauline Chen  
Atul Gawande  
Perri Klass  
Danielle Ofri  
Oliver Sacks  
Abraham Verghese  
and more**

***Writer, M.D.***

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# *Writer, M.D.*

**The Best Contemporary  
Fiction and Nonfiction  
by Doctors**

EDITED BY LEAH KAMINSKY



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Acknowledgments

Medicine is my lawful wife and literature my mistress; when I get tired of one, I spend the night with the other.

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—*Anton Chekhov*

## Foreword

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A physician works at the border between science and the soul. Schooled in physiology and pharmacology, the molecular workings of genes and proteins, the biochemistry of health and disease, a doctor brings to care a diverse body of expert knowledge. That knowledge rapidly expanding with the use of sophisticated technologies such as genomics that map mutations in our DNA, and MRI scans that reveal millimeter abnormalities in our inner organs. This wealth of information has changed the nature of diagnosis and treatment, bringing many maladies under the bright light of science, illuminating their genesis, and providing a rational basis for their remedy.

But what has not changed over the millennia is the human soul. The role of the physician and healer has not been fundamentally altered by his burgeoning knowledge. Greater knowledge does not necessarily translate into greater wisdom. Wisdom requires melding information with judgment and values. The wise doctor probes not only the organs of his patient but also his feelings and emotions, his fears and his hopes, his regrets and his goals. And to accomplish that most important task of applying wisdom, the physician also needs to take his own emotional temperature, to realize how his own beliefs and biases may be brought to bear on his efforts to secure a better future for his patient.

This remarkable collection melds science and the soul, logic with feeling, knowledge with wisdom. The voices that the reader hears are among the most prominent in the constellation of physician-writers. What makes these writers so compelling is not only the fluidity of their prose and the intensity of their focus, not only their literary and narrative skills, but also their remarkable degree of self-awareness. A physician is trained in medical school and residency to hide his feelings and filter his thoughts. This training is required in order to effectively deliver care in an environment that is often chaotic and unnerving. The doctor needs to present himself to the patient as a safe harbor of stability in the midst of the tempest of illness. But when that doctor has moved from the clinic to the page, the mask drops, and we see the turmoil and tribulations in his heart and mind. The humanity of both patient and physician is what makes the stories that follow so rich and so fulfilling.

*Jerome Groopman*

## Introduction

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When I first became a medical student, many years ago, I developed a condition I call Tunnel Vision of the Soul. It is a crippling ailment in which you see only things that are straight in front of you. You focus on the sickness and don't see the sick person. Your peripheral vision is blurred, so that you don't notice your surroundings, with all their inherent colors, nuance, and possibilities, unless you deliberately turn your head to look. The onset can be insidious, the symptoms barely perceptible at first.

As I was spending lunchtimes in the anatomy museum, surrounded by dissections under glass, it never occurred to me that what lay exposed was the pelvis of someone's mother, or the foot of somebody's brother. I munched on chicken sandwiches, busily memorizing mnemonics: Swiftly Lower Tilley's Pants To Try Coitus There, for the bones of the wrist; Grandpa Shagging Grandma's Love Child, for the top layers of the skin.

After six years as a medical student, practicing rectal examinations on old men who had become paralyzed following a stroke, performing bone marrow biopsies on dying little old ladies, and shoving needles into the spines of crying babies, I emerged almost totally desensitized to human pain and suffering. My fortnightly salary checks were based on the fact that other people fell ill, or died. And as a cocky young intern, proudly wearing my long white coat while strolling through the wards of a large teaching hospital, I felt impermeable.

The cure for my tunnel vision came gradually. I started reading literature, which coaxed me to return to writing—something I hadn't done since high school. With my trembling pen, I began to heal my own wounds and try to make some sort of sense of what I had experienced as a young doctor and as a human being.

Since that time, my medicine has always fed and informed my writing. More importantly, my writing has hopefully made me a better doctor. Becoming a writer has opened my eyes so that I am able to see my patients as human beings, each one with his or her very own story to tell. And nowadays, I hope that I am able to listen to their hearts—with both my stethoscope and my pen poised.

*Writer, M.D.* is a collection of stories—fiction and nonfiction—that aims to look behind the doctor's mask. What goes on inside the mind of the human being who deals with enormous existential issues and traumatic situations on a daily basis? It is through writing that many doctors have plumbed the depths and richness of their experience and, in turn, used this to explore their patients' inner lives.

These stories canvass emotional experiences acutely felt by doctors—an awareness of our mortality, of how humanity interplays with medicine, of the weight of responsibility carried by the profession. The fiction pieces, in particular, often use the point of view of the patient to examine a range of issues, including grief, trauma, illness, and aging.

The public is hungry to see behind the veneer of the medical professional, as evidenced by the burgeoning number of TV shows such as *ER* and *Grey's Anatomy*. This book delves beyond the sensationalism, taking a critical look at doctors' close observations of, and reflections upon, their working lives.

Physician-writers have a long tradition. Apollo managed to have a dual career as the Greek god of both poetry and medicine. Copernicus, Maimonides, Bulgakov, and Chekhov were a

physicians who purloined their patients' narratives. In this anthology, I hope the reader will be afforded a glimpse of the world through the eyes of some of our best contemporary doctor-writers. Every patient has a story to tell, if only you take the time to listen.

*Leah Kaminski*

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*nonfiction*

# Bedside Manners

ABRAHAM VERGHESE

When it was time to hang pictures in our new house in San Antonio, my wife asked me to buy a stud finder. As a husband, I demurred; as an internist, I flat-out refused. We internists make it our business to divine the stutters and stumbles of lungs, hearts, brains, adrenals, gut, and gonads—hence the term “internal medicine.” Once upon a time, doctors examined patients not with CAT scans or MRIs but with their senses. “Surely,” I said, “skills that can find pneumonia behind the chest wall can find a stud behind drywall.”

Under her skeptical eye, I dragged my fingertips along the wallpaper. I flattened my palm and tapped on the back of my left middle finger using the tip of my right middle finger. My hands drummed over the pressed gypsum, sounding it, discovering the spots where the resonance became muffled, abbreviated—*thud* rather than *thoom*. In the medical world, this is known as percussion, a technique that physicians have employed for centuries to sound the body’s depths. Using it, I had found the upright wooden timbers that even in the best circles of society are called studs. My brother-in-law, who fought in Korea, who wears ten-gallon hats, and who is fond of me but feels that most medical professionals are in it for the luxury cars, golf, exotic vacations, and early retirement, was impressed. As we hammered the nails in and hung the pictures, he said, “I didn’t think a doctor could do that anymore.”

My wife thinks of me as a Luddite. She believes that if a gadget has found its way onto a catalog page, and if its price is many multiples of a bar of soap, it must be useful. But this evening the pendulum swung in my favor. It was one of those man-puts-machines-to-pasture moments where the sheeplike drift of consumer society toward another “must have” momentarily halted. Please, I beg you, say no to pet dishes on legs that enable Fido to drink in an “anatomically correct” fashion, say no to battery-operated fridge air purifiers, and say no to stud finders. I fell asleep that night thinking about an instructional pamphlet that would put in every homeowner’s Welcome Wagon basket, alongside the coupons, refrigerator magnets, and recipes for orange-peel-flavored scones: “Find the Hidden Stud in Your New Texas Home.”

The sad thing is that a homeowner armed with such a pamphlet and with one other critical ingredient—faith—can soon become more skilled at percussion than the average physician. This is fast becoming a lost art. In the past twenty-five years, I have taught hundreds of medical students the four classic steps in the physical examination: inspect, palpate, percuss, and auscultate. Their eyes sparkle. This is the way they imagined themselves: semioticians at the bedside, reading the signs to find the varmint in the patient’s body. Alas, a shock awaits the students when they finally arrive on the wards in the third year of medical school, their pockets laden with reflex hammers, tuning forks, ophthalmoscopes, otoscopes, penlights, and stethoscopes, only to discover that the ebb and flow of the modern hospital centers on MRI, CAT scans, echocardiograms, angiograms, and myriad lab tests. Often, interns and residents have so little faith in bedside diagnostic skills that, as one student told me, “a man with a missing finger must get an X-ray before anyone will believe he has only four.” As for new pocket tools, only a few diehards still carry them. The stethoscope alone peeks out of the

doctor's pocket as a hollow symbol of the profession. (I prefer seeing it in the pocket to seeing it draped over the neck like the beads and gris-gris of Wodaabe tribesmen of the Sahara, a vulgar display meant to signal that the wearer is a sound marriage prospect and has, if not cows and land, then the prospect of luxury cars, golf, exotic vacations, and early retirement.)

When I travel as a visiting professor to teaching hospitals, I have the distinct feeling that the patient in America is becoming invisible. She is unseen and unheard. She is "presented" to me by the intern and resident team in a conference room far away from where she lies. Her illness has been translated into binary signals stored in the computer. When I ask a question about her, the intern's head instinctively turns to the computer screen, like a pitcher checking first base. I gently insist we go to the bedside, but that is often a place where the team is no longer at ease. I realize what has happened: the patient in the bed is merely an icon for the real patient, who exists in the computer. How strange this is! When one knows how to look at the patient's body is an illuminated manuscript. Indeed, in an elderly patient with a double-digit "problem list" that scrolls off the screen, only at the bedside does one understand which problem is most important. As my brother-in-law would put it, "You have to kick the tires."

I am no economist, but even a landlubber on a sinking ship is entitled to make observations about the rent in the hull that is about to alter his fate: the present crisis in American health care is only secondarily a fiscal one; the real crisis is that the "art" of bedside diagnosis, in which a previous generation excelled has died with the next. Personal-injury lawyers allow us the wonderful excuse that we order batteries of tests because we are practicing "defensive medicine. The truth is that, even without the threat of malpractice, we would still need just as many CAT scans and echocardiograms as we do now. We know no other way. Take away our stud finders and we can't hang a picture. We are like owners of playerless pianos asked to entertain during a blackout: our fingers and ears may be intact, but we can no longer play or percuss.

It was an innkeeper's son, Josef Leopold Auenbrugger, who discovered percussion. I have dreamed this scene so often that I am convinced it must have happened. Imagine Vienna in the eighteenth century:

*The inn is bustling. Young Josef and his father carry empty wine jugs down to the cellar. Auenbrugger père hums as he descends, the sound enlarging in the cool cavern, where three large casks of wine sit like three portly giants. Since the casks are not transparent, the question is always how much wine remains inside each one.*

*Auenbrugger père raps with his knuckles on the side of each cask. At the top he generates a hollow sound, a profundo, like a bass drum. As his knuckles come down the side, there is a point where the sound changes. The sustained echo—the thoom—is stifled, and the new sound is dull and flat, as if the old sound were decapitated. Young Josef, just like his father, "sees" through the cask, where the reflective, liquid surface ripples at his touch.*

In Auenbrugger's time, physicians focused largely on symptoms, and had no great need to touch the patient (which some would argue is where we are now). Knowing what ailed you made little difference because, as far as treatment went, you could only be cupped, purged, scarified, or bled. Bleeding was to that era what antibiotics are to ours: abundant and overused. At the barber-surgeon's establishment, you held on to a pole as he sliced you and collected your blood in a basin. While there, you could also get a tooth pulled, an abscess

drained, and finish up with a shave and a haircut. The barber-surgeon was nothing if not versatile. At the end of the day, the barbers washed long strips of bandage and hung them outside to dry. Medical students are often surprised when I tell them that the familiar red-and-white barber's pole has its origins in bloodletting, with the stripes representing the bloody bandages and the ball on the top of the pole representing the basin. If you had the chance to live, these treatments might nevertheless do you in; if you were destined to die, they mercifully hastened the end.

When Auenbrugger became a physician, he started thumping and tapping on his patients and painstakingly cataloging the sounds of health and disease they produced. The book he wrote about this practice, *Inventum novum*, published in 1761, had the impact on medicine that X-rays would have 150 years later. For the first time, a doctor could "see" beneath the intact skin into the innards of the body. Percussion allowed (and still allows) a physician to get evidence of a dilated heart, an enlarged liver, fluid around the lung, fluid in the belly, perforated stomach ulcer, and many other conditions. I think of present-day ultrasound as the child of percussion, the ultrasound transducer generating a sound wave that bounces off the tissues and comes back to a sensor.

Like any new method, percussion had its overenthusiastic practitioners. The famous Pierre Piorry percussed while sitting on a high stool next to the patient's bed, and then used colored crayons to outline the organs. Known as the "medical Paganini," Piorry claimed each organ had its own note and the body held a musical scale. An apocryphal story has Piorry going to see the king and, on being told that the king was out, proceeding to percuss the chamber door and declare that the king was in.

I attended medical school on two continents. My first clinical professor in Addis Ababa, Ethiopia, was a spiritual descendant of Auenbrugger's named Charles Leithead. He taught us how to place our fingers on the wrists of patients with rheumatic heart-valve disease and recognize the slapping, "water hammer" pulse of a leaky aortic valve or the "plateau pulse" (pulsus parvus et tardus) of a narrowed aortic valve. He marched us to the heart, taking the blood pressure along the way, studying the sinuous waveforms of the neck veins, which mirrored the happenings in the heart's upper chamber. He carefully inspected the patient's chest and felt for the thrust of the heart between the fifth and sixth ribs on the left, though, in an enlarged heart, the impulse could wander down and out to the armpit. At this point in a physical exam, he had us pause and try to put the clues together. His teaching was: "Before you put out your stethoscope, you should know what you are going to hear." It was heady, marvelous stuff. When I finally heard the soft, rumbling, low-pitched, mid-diastolic murmur of mitral valve narrowing that is caught only with the bell of the stethoscope lightly applied, I was ecstatic. I heard it because I knew it would be there.

Displaced from Africa by civil strife, I went to Madras, in South India, to finish my studies. My teacher was the legendary K. V. Thiruvengadam, known to all as KVT. KVT is the Ravi Shankar of percussion. He enjoined us to "percuss to feel and not to hear." The vibration we received in the pleximeter finger laid flat against the chest was, he said, more important than the sound. You can recognize KVT's progeny from our near-silent percussion; if I percuss audibly, it is only to teach, or to demonstrate, say, to a skeptical brother-in-law or spouse.

For sleuths of the caliber of Leithead or KVT, a diagnosis could be lurking in something as simple as a facial expression. Not the dull and coarse facies of a sluggish thyroid or the

masklike expression of Parkinson's disease, which are evident to laypeople, but the risible sardonicus (sardonical smile) of tetanus or the facies latroductismica (a grimacing, flushed, jaw-clenching, puffy-eyed expression) of a patient affected by the toxin from a black widow spider, or the madonna-like facies and transverse smile of a type of muscular dystrophy.

My final exam at the medical school in Madras included a rigorous clinical test with real patients carefully selected for signs and symptoms of a disease. In America, final-year medical students face no such clinical test. Even for specialists in internal medicine, testing with real patients and live examiners was done away with in the mid-seventies, after it was deemed too subjective. Recently, the powers that be put in place the national Clinical Skills Assessment Exam for final-year American medical students, for which the student has to cough up more than a thousand dollars and travel to one of a couple of centers in the country. In my opinion, and the opinion of many academics I talk to, this exam tests everything but clinical skills. It tests the student's ability to make eye contact, to interact with a person *acting* the role of a patient, to follow the appropriate leads in his fictional story. Does it test whether the student can detect an enlarged liver? Or hear the diastolic sound of heart failure? To get a driver's license or a pilot's license, it is axiomatic that an examiner must watch you drive or fly to confirm you have the skill. Not so in medicine.

I recognize that I am an incurable romantic. I teach bedside skills because I hear the ghosts of Auenbrugger; of the celebrated physician Sir William Osler, who took us out of the classroom a century ago; and of the old horse-and-buggy doctors in South Texas who could divine their patients' maladies by touch, smell, sight, and sound. I hear them say, "Thou shalt not break the chain."

For the past few years in San Antonio, I have spent Wednesday afternoons on "professor rounds" with six or seven third-year medical students, seeing patients they have worked up. Each week, when I round with a new group, I ask them not to tell me or the other students what the patient's diagnosis is, so that we can see how much the body alone might reveal. The students love these sessions. They often say that this is what they envisioned medicine would be about: time spent in the hallowed space around the patient's bed, time spent with the patient, probing the body for clues. I preach that it is a skill they should cultivate, not to replace technology but to allow them to use technology judiciously and to ask better questions of the tests.

At a recent Wednesday-afternoon session, our patient, an elderly veteran, was thrilled by the attention from the flock of students, particularly their percussing of his chest. "My doctor used to do that when I was a boy," he said with a smile. "He sure knew what he was doing."

# Index Case

PERRI KLASS

Because of my extensive training—four years of medical school, three years of pediatric residency, a two-year fellowship in pediatric infectious diseases—and because of my years of experience in practice, I had no trouble at all diagnosing my illness. I knew what was wrong with me, and I knew the technical term for it: I had the pediatric crud. It was winter, and I was seeing sick kids all day long, and now, after a couple of days of congestion and rhinorrhea, a bad cough was developing. It happens every winter, like clockwork.

Now here comes my big confession. I am ashamed to admit that on day one of my bad cough, I started treating myself with antibiotics. Yes, of course, I knew that in all probability I had a viral upper respiratory infection (URI), and I could probably even have named the most likely viruses. And yes, of course, I knew that antibiotics were completely useless in the setting of a viral URI, and I knew that the overuse of antibiotics is a terrible problem in our society, and that the demands of patients with viral illnesses and URIs to be treated with antibiotics need to be met with careful education and explanations—certainly not with unnecessary prescriptions. I knew all that, really I did.

On the other hand, I also knew that in winters past, when my annual pediatric crud dragged into its third or fourth week, I usually ended up taking antibiotics. I would wait until my symptoms qualified to be considered bronchitis, or until a colleague listened to my lungs and heard some crackles; but, in the end, my annual illness would always lead to antibiotics. So since this cough seemed to have gotten so bad so quickly, I reasoned, why not just take the antibiotics right away and see if I could shorten the course? Well, maybe “reasoned” isn’t quite the right verb. Let’s just say that, more than a little shamefacedly, I treated myself with a five-day course of azithromycin.

It didn’t help at all. My cough got worse and worse. I didn’t feel too sick otherwise, but I was carrying around a jar of maximum-strength over-the-counter cough medicine, dosing myself whenever I had to see patients, teach, or do anything else that called for conversation. I viewed it as my right and proper punishment for taking unnecessary antibiotics. It never occurred to me to stop seeing patients, of course; nor did it occur to any of my coworkers, I would guess, that perhaps I shouldn’t be working. I wasn’t really sick, I just had the crud, and we’re all wedded to that die-with-your-boots-on ethos whereby you keep on working unless you are sicker than your sickest patients. One day, when I was responsible for hospital rounds, I did ask a colleague whether she thought it might be better to have someone else run over to the hospital and see a couple of newborns—I have this pretty dramatic cough, I said, and I feel a little guilty about coughing in the newborn nursery. My colleague, supremely unimpressed, and much too tight for time herself to fit in an unexpected hospital stop, sensibly suggested that I try a gown, a mask, and gloves.

So, well swathed, I rounded on the babies, and then I went on to work the evening session at the health center, seeing patients. I took the maximum-strength cough medicine and washed my hands scrupulously, and whenever I felt a coughing fit coming on in the presence of a patient, I would make some excuse to leave the room and go cough my head off in the

doctors' work area. Then, the colleague who had suggested the gown and mask heard me coughing that very night and remarked that I sounded paroxysmal.

Now, "paroxysmal" is one of those coded medical words. It's like saying a baby seems a little "lethargic," rather than simply tired and clingy and cranky. You say it one way, you mean the baby has a little bug; you say it the other way, you mean do a lumbar puncture. So when she said "paroxysmal," I thought, for the very first time, of pertussis (whooping cough). And once I had started thinking about it, I couldn't get it out of my mind—after all, I had my cough to remind me. So I went to my internist, who thought my lungs sounded fine and that my cough probably just represented a lingering viral illness—and these coughs, she warned me, can last for some time—and that pertussis was highly unlikely. But to allay my anxieties she sent off a titer (I was more than two weeks into the cough by this point, so it was too late for a culture). And then I went back to seeing patients, and the laboratory misplaced the sample (by filing it under my first name instead of my last, it turned out), and I had to call my friend in Infection Control, who got someone at the lab to take another look, and eventually the sample was found—and guess what? I had pertussis.

I had suddenly become a public health emergency. A pediatrician, seeing children all day rounding on newborns, the mother of three children at three different schools, the close colleague of who-knows-how-many doctors and nurses and clerical staff. I was phoned or paged by someone from Public Health every day, sometimes several times a day. I sat at my desk making a list of every friend or acquaintance with whom I had been in close contact during my infectious period.

I felt deeply, deeply ashamed. Calling these people, one after another, I felt alternately like Typhoid Mary and the person at the end of the STD partner-notification line. I had exposed them, contaminated them, put them at risk. I urged everyone to take prophylactic antibiotics and to call the doctor immediately if a cough developed. Most of all, though, I felt ashamed before my colleagues and my patients at the health center. I couldn't stand to look at the letter that was going out to the families I had seen during my period of maximum infectiousness: "Your child may have been exposed to a staff member who has pertussis." I did not want to be the doctor who saw any of those families when they came in to get the antibiotics or, if they were coughing, their nasal swabs and their antibiotics. I did not want any of them to know that I was the staff member with pertussis. And to make matters worse I was still coughing—now not infectious but still coughing pretty dramatically, just in case the local public health emergency had slipped anyone's mind for even a minute.

Some of my anxieties were relatively well grounded in reality. Pertussis, after all, is more dangerous to infants, who account for almost all the hospitalizations and the deaths associated with the disease. And the surveillance data show a steady increase in the rate of disease among infants in the United States between 1980 and 1999—an increase that may be attributable in part to increased transmission from adults.<sup>1</sup> And here I was, one of those adults. We do know that much pertussis disease in adolescents and adults may present as a nonspecific or persistent cough, and may therefore go unrecognized.<sup>2</sup> We do not know what the rate of disease in adults should be on the increase, if in fact it is. The confluence of various factors may be to blame: the waning immunity of the vaccinated adolescent and adult population, for instance, and the decreased likelihood that immunity will be boosted by exposure to natural disease.

I was an adult, vaccinated as a child, presumably with waning immunity, which has probably been boosted by exposure to some natural disease during my childhood, forty years ago, and perhaps by the occasional occupational exposure (I can remember at least two occasions during my residency when prophylaxis was prescribed, though I have to confess that, back in those days, when two weeks of erythromycin were required, my compliance was dubious and I probably did not finish either course). Maybe my own waning vaccine-induced immunity finally intersected with a sufficiently infectious exposure—but epidemiologic speculation feels different when you yourself are the index case. What I kept picturing were sick babies—individual tiny bodies wracked with coughing fits. There were all the infants I had examined in the clinic, there were the babies in the nursery ... there was even a friend who had shared a cab with me who had a newborn grandchild, and I imagined the chain of risk and exposure stretching far enough to threaten that baby as well.

Of course, I had seen pertussis. I saw a very dramatic case during my residency, in a baby who had deliberately not been vaccinated (“crunchy granola parents,” we residents whispered to one another), who was brought into the emergency room looking terrific, but his parents had tape-recorded his coughing spells, telling us they had never heard anything like this. And indeed the spells were terrifying: you listened to the tape, and you could swear the baby was dying of strangulation before your very ears. And at the end of each spell came that terrifying unearthly whoop, as if the baby were possessed by some evil-intentioned spirit of respiratory compromise. Every resident and medical student in the hospital was brought to that baby’s room during his hospitalization, and the word was passed: once you hear a real whoop, you’ll never forget it (an audio clip is available at [www.nejm.org](http://www.nejm.org)). Well, I had never forgotten it, but adults, by and large, don’t whoop, so it had never occurred to me that I might have the same disease as that baby. Some pediatric infectious diseases specialist; some diagnostic whiz kid!

I’m not sure now exactly why I was so ashamed. Presumably, after all, I had contracted pertussis in the line of duty—pediatric infections are an occupational risk and, for all our careful hand washing, if you see sick kids all day long, sometimes some enterprising microorganism makes the jump, through direct contact, through fomite, or through a respiratory droplet. It is a professional responsibility, and even a professional point of pride, not to run from the sick but to move toward them and touch them. But there was something about the idea that, instead of helping, I might have gone from day to day and from exam room to exam room doing harm that left me deeply embarrassed. In addition, I was embarrassed that, despite all that training, the word “pertussis” never crossed my mind until someone else listened to my cough with interest and characterized it for me.

There was only one really bright element in those bleak few days, as I huddled over my list of exposed friends, calling them up one after another with the bad news, as I went slinking through the health center imagining resentful looks from nurses and doctors and patients alike: at least I had taken antibiotics, and taken them early. The public health nurse who was assigned to my messy case kept saying it to me on the phone: “Thank God you took those pills!” Because I had started taking azithromycin (which, in Massachusetts, is now the recommended treatment for pertussis) on day one of my cough, I was considered to be noninfectious by day five, so instead of contacting and prophylactically treating about two weeks’ worth of patients, we ended up with a relatively short list of children who might have

been exposed—and the consolation that even when I saw many of those children, I had been at least partially treated, which might have reduced the risk of transmission. Those babies in the newborn nursery, for example, were not considered to be at risk. And I found myself saying it to my friends, when I called to notify them: “Now, I did take antibiotics right away, but since we spent some time together before I was fully treated, I just wanted to let you know ...” And as time went on and we failed to uncover any secondary cases that could be traced to me, I kept reminding everyone about that early antibiotic treatment, as if it let me cling to some shreds of doctorly dignity: I had done the right thing, I had used my special knowledge, I had protected those I could protect. In other words, I consoled myself for my irrational sense of shame about having possibly exposed patients to infection with an irrational sense of self-satisfaction about having taken antibiotics for no good reason.

Pertussis may be on the increase in this country, but in many ways it still seems like a disease that does not quite belong to our era. When I had to call people and announce, “I have whooping cough,” I felt like a medical curiosity, or the punch line of someone’s ironic anecdote: the pediatrician with the rare, vaccine-preventable disease. When the public health officials were calling me, I felt like some other kind of epidemiologic specimen: patient zero, the walking disease-control headache. And through the whole experience, every so often, all my various emotions would disappear into a true and impressive paroxysm of coughing and coughing, and more coughing, as the microbiology and the respiratory pathology took over and left me doubled over, momentarily speechless, and gasping for breath.

## Notes

1. M. Tanaka, C. R. Vitek, F. B. Pascual, K. M. Bisgard, J. E. Tate, T. V. Murphy, “Trends in Pertussis Among Infants in the United States, 1980–1999,” *Journal of the American Medical Association* 290, no. 22 (2003): 2968–2975.
2. Centers for Disease Control and Prevention, “Pertussis—United States, 1997–2000,” *Morbidity and Mortality Weekly Report* 51 (2002): 73–76 (available online at [www.cdc.gov/mmwr/PDF/wk/mm5104.pdf](http://www.cdc.gov/mmwr/PDF/wk/mm5104.pdf)).

# Resurrectionist

PAULINE W. CHEN

My very first patient had been dead for over a year before I laid hands on her.

It was the mid-1980s, and I had at last made the transition from premedical to full-fledged medical student. That late summer from the window of my dormitory room, I could see the vastness of Lake Michigan dotted with sailboats and the grunting, glistening runners loping along its Chicago shores. Despite this placid view, I rarely looked out my window. I was far too preoccupied with what lay ahead: my classmates and I were about to begin the dissection of a human cadaver.

Prior to that September, the only time I had seen a dead person was at the funeral of my Agong, my maternal grandfather. Agong had grown up on a farm in the backwaters of Taiwan at the turn of the last century. He barely finished high school, but by the time he was middle-aged, Agong owned a jewelry store in one of Taipei's most fashionable districts and had raised five college-educated children. While he grew up speaking Taiwanese, Agong had taught himself Mandarin Chinese and Japanese, languages and dialects as different as German, English, and French.

Agong loved my mother, his firstborn child, and lavished her with that gift of nearly blinding parental adoration. As *her* firstborn child, I was in a special position to receive some of those rays of love. Unfortunately though, with my American upbringing I understood Taiwanese but spoke only "Chinglish," a pidgin amalgamation of English and Mandarin Chinese. Moreover, Agong and I had been separated by half a world until he moved permanently to the United States when I was in high school. So while I loved my grandfather, our relationship always remained rather formal.

Agong died in the fall of my sophomore year in college. One weekend, my parents mentioned to me on the phone that he was doing worse and might possibly "not make it." A week later they called again to tell me that he had passed away.

My mother was grief-stricken. She became consumed by guilt and remorse, feelings that I would later learn often plague relatives of the recently dead. For my part, while I did mourn Agong's death, I was unsure how to cope with this phase of life or with my mother's overwhelming grief. I had not been witness to his actual dying, and seeing my grandfather alive during one visit and lying dead in a casket the next made his death unreal to me. The funeral was not particularly long, but the parade of mourners dressed in black and my own uneasy feelings seemed to last forever.

I was surprised by how un-lifelike Agong looked lying in the casket. Despite all the effort of the mortician, the figure in the coffin simply looked like a model of Agong, like a wax figure from Madame Tussauds's famous museum. His face and body as I had known them were gone. Even his nose, famous in our family for its Jimmy Durante profile, had changed; the nostrils looked less fleshy and even droopy, like a once majestic sail that had lost its wind.

The fact that even the professionals with all their makeup and tricks could not re-create my grandfather's likeness only served to emphasize that he was really dead and gone from our

lives. That funeral, the telephone call from my parents announcing my grandfather's passing and the memories of my mother's grieving were the most direct experiences with death that I had prior to medical school.

The majority of my 170 medical school classmates were no more experienced than I, and our first real exposure to death would be that semester in the human anatomy course. While one student had worked in a hospital morgue during college and another had worked in an Illinois meatpacking plant (subsequently becoming a strict vegetarian), those two classmates were the rare exception. Instead, the summer before starting medical school most of us privately dreaded and fretted about dissecting a human being.

During my medical school orientation week, I was finally able to share my dissection fears with others who harbored the same uneasiness. Anatomy quickly became a major topic of discussion at social events. The classmate who had worked in a morgue was a prime source of information for the rest of us. I kept wondering if the cadavers looked alive or like wax figures. I secretly hoped that they would look at least as unreal as my grandfather had, believing that the less they looked like the living, the easier dissecting would be. We asked the second-year medical students about their experience the previous year. "Wear your old t-shirts and jeans," they said, sipping their drinks nonchalantly at receptions for the new initiates. "You'll want to throw out those clothes at the end of the semester because they just reek." Holding on to their words, I replayed their cavalier responses in my mind. What smell would cling to our clothes? Death?

From the moment I had begun contemplating this career path some fifteen years earlier, I knew that I would want to use my profession to help people. Most of my classmates were not different. We were an odd group, idealistic but intensely obsessive and competitive enough to have survived the grueling premedical curriculum. While a few of us might have harbored goals of financial security or visions of a certain lifestyle, we were for the most part determined to learn how to save lives.

What many of us did not realize was that despite those dreams, our profession would require us to live among the dying. Death, more than life, would become the constant in our lives.

The dissection of the human body had fascinated me since I was seven years old. I had some idea back then that I might want to become a doctor. At the time my Agong had just been diagnosed with a brain tumor, and my mother took my younger sister and me back to Taiwan for the summer to be with him. The diagnosis, the operation, and the neurologic deficits resulting from the removal of a part of my grandfather's brain would eventually color the rest of my grandparents' lives together. Nonetheless, at the time I was enthralled by the way his neurosurgeon comforted my grandmother and family. He was a big, bald Taiwanese man with a round face, hands like bear paws, and a demeanor that was at once humble and confident. When he came out to the waiting room to an audience of anxious family members, his words—"I got it all out"—fell on us like a great light from the heavens. That experience convinced me that medicine was the work of gods.

An aunt who was in medical school at the time heard about my interest and offered to take me to her anatomy lab. I was fascinated by the idea that there might be secrets about life and death lurking there. At that age I already had come to believe that dissection was the greatest

event that separated physicians from the rest of us. To be able to stomach such an experience I thought, would prove my mettle, and to sneak a peek into the inner workings of a body—dead body, no less—would put me in a league beyond any other second-grader I knew. My parents, however, quickly vetoed the idea, fearing that such a close-up and possibly gruesome experience might scar me permanently.

Like all initiation rites, the dissection of the human cadaver poses several obstacles to the neophyte. First, the new medical student has to memorize a vast array of anatomical facts. Such rote memorization can be mindnumbingly dull, and the overwhelming amount of information makes the task seem Sisyphean. One of my college mentors, a brilliant psychiatrist and anthropologist, counseled me before I started. He had completed medical school some twenty years earlier. “It’s like memorizing a telephone book,” he said. “You just have to get through it.”

Memorization, however, is probably the easiest obstacle to surmount, and it has unfortunately recently been the only focus of medical schools. The more difficult, and often unspoken, obstacle for medical students is accepting death and the violation of the human body. In the human anatomy course, cadavers are laid before fledgling physicians, and the familiarity of their form reminds us that each lived lives not unlike our own. For those of us who winced from simple paper cuts, running a scalpel against skin and definitively dividing the essential structures that once powered a fellow human are acts that require a leap of faith. While premedical students fully expect to perform a human cadaver dissection in medical school, the expectation hardly tempers the brutal reality.

Aspiring physicians face death directly in the form of the cadaver. And then they tear it apart. Each detail of the cadaver—every bone, nerve, blood vessel, and muscle—passes from the world of the unknown into the realm of the familiar. Every cavity is probed, every groove explored, and every crevice pulled apart. In knowing the cadaver in such intimate detail, we believe that we are acquiring the knowledge to overcome death.

To complete the initiation rite successfully, however, we need to learn to separate our emotional self from our scientific self; we must view this dead human body not as “one of us” but as “one of them,” a medical case to be understood but not embraced. This ability to distance the self, I was to learn later, would be called upon again and again in my medical training. It was as if such separation would provide me with a greater sense of objectivity, a modicum of strength, and thus an enhanced ability to care for my patients. But this first lesson in disengaging from the personal was the most radical: it required suppressing the fundamental and very human fear of death.

My medical school, not entirely unaware of the anxiety we harbored, did make some attempts to lessen the impact of working with a cadaver. We spent a week in lectures preparing for the first day of dissection. While none of these lectures directly addressed our mounting anxieties, they did give us the tools we needed to begin to detach ourselves emotionally from the experience. One of our first anatomic lessons was on vocabulary used to describe the body. These words, so different from our usual descriptive terms, would serve as directions on the map of the human body. We learned the difference between “distal” and “proximal,” “abduct” and “adduct,” “transverse” and “sagittal.” We learned that “left” and “right” no longer referred to our left and right but to the patient’s.

The day before our first dissection lab, we toured the laboratory facilities. There were eleven rooms connected by a long hallway, and each room had four large stone lab benches with sinks and enough workspace for four students. A large enclosed cavity within the lab benches held a sliding metal bed not unlike the metal beds used by coroners or pathologists. These cavities would be where our cadavers would be stored. We would spend every weekday afternoon for the next twelve weeks in these rooms, and all of us, either in small groups or alone, would spend many of our free hours there trying to memorize the minutiae from each cadaver.

Formaldehyde, the preservative used for cadavers, has an unmistakable odor—sharp, rancid, piercing—like the olfactory version of a high-pitched shriek. The faint smell of formaldehyde present in each of the eleven rooms was left over from years past, as the cadavers for our class had not yet arrived. Over the years the smell had managed to work its way into the rooms' marble and concrete, lingering and reminding us of our place in the school's history.

Our professor was not the wizened sage I had always envisioned would take me through this rite. Instead, he was just a few years out from his own graduate work in physical anthropology and anatomy. His youth and strong Hoosier twang demystified the whole ritual and made many of us more relaxed. He informed us of the overwhelming power of the smell of formaldehyde and reminded us that the smell would permeate our gloved hands, clothes, and hair. Indeed, I would soon discover that it would be strange eating with my hands this semester. While tasting some chicken wings at a reception later that fall, I realized that the smell of the cadavers from my fingers was mingling with the taste of barbecued chicken in my mouth. "Lemon dishwashing detergent helps get rid of the smell," our professor advised us the afternoon before we were to embark on our dissections. That night each of us pulled out clothes that we were willing to toss at the end of three months—frayed jeans, "borrowed" hospital scrubs, and T-shirts with high school emblems—and there was a run of lemon dishwashing detergent at the local grocery stores.

The next afternoon an intensified odor assaulted each of us as we entered the lab. Overnight, the laboratory technicians had placed fresh cadavers in their respective storage enclaves. For that afternoon's work I had replaced my contact lenses, susceptible to the fumes of formaldehyde, with my chunky glasses, and I remember being mildly surprised by how many of my fellow classmates were as blind as I. All of us had also carefully put on the yellow paper masks, more to blunt the penetrating formaldehyde than to protect ourselves from any biohazards. Over the weeks, as we became more absorbed in our work, we eventually neglected to wear these flimsy barriers. Some of us even occasionally forgot to put on our gloves.

The class was divided alphabetically into groups of four students, and each group was assigned to a cadaver. These groupings were used over and over again during the next two years whenever our education required more intimate instruction. With the same three classmates, we clumsily attempted to draw blood, learned to do pelvic exams, and performed our first rectal exams on patients. Most notably, however, we dissected together in anatomical lab.

I worked with three other women. Mary was from California, the daughter of a family practitioner and the middle child in a large Irish-Italian Catholic family. She was

preternaturally calm, a characteristic that would give her an outstanding bedside manner, and she eventually followed in her father's footsteps. Peg was from Chicago. She was the most reticent of the four but made up for her shyness with a generous spirit and a sharp, dry wit that helped give the rest of us perspective during more difficult times. She later became a pediatrician. The third woman, Lara, was the youngest and the most boisterous of the four of us. The daughter of immigrants, she was born and raised in Chicago and now practiced pediatrics in that city. I was from New England and set at the time on becoming a psychiatrist or geriatrician and pursuing an academic career in medical anthropology. However, as gruesome as it all seemed to me that first week, the experience of the cadaver dissection—the concise and efficient beauty of human anatomy, the pleasure of using my hands as an extension of my mind, and the spirit of teamwork—became the foundation of my decision to become a surgeon.

On that first day I unlatched the door on the side of our stone lab bench and gently slid the metal bed out of the inner compartment. All the cadavers were sheathed in white plastic body bags. Some bags were large; others were smaller. There was no question, however, given the frozen forms, what was within these zippered shrouds. Several provisions had been made by the medical school to decrease the shock of starting our work. The lab technician had placed all the bodies facedown so that we could see only the back of their head. We started our daily dissections with the arms and legs, and our cadavers' faces were kept covered until the final two weeks of the course. Those who organized our anatomy course believed that such a progression would be a gentler introduction to working on a dead human being.

We learned anatomic principles, dissection techniques, and ways to hold the dissection instruments with greater precision. We learned that in medicine, "tweezers" were called "forceps," and those who fancied a future career in surgery used the more specialized jargon, "pickups." We learned to change blades efficiently on a scalpel without ever touching the blade's sharp edge, to hold the scalpel like a pencil for finer work, and to grasp it with the tips of four fingers and the thumb apposed, as if holding a violin bow, for more dramatic slices and cuts. We began to manipulate scissors with the thumb and fourth finger, as surgeons do, not the thumb and index finger as we had once learned in nursery school. "Using the fourth finger allows the index finger to rest on the joint of the scissors and gives greater control," stated one of the teaching assistants, a fourth-year medical student planning on a surgical career. Hairdressers everywhere, I would later note, hold scissors in a similar fashion.

The only information that we had on our cadavers was a card attached to the bag indicating their gender and approximate age at death. My cadaver was a woman who had died at seventy-two. Other than those two pieces of information, there was nothing else: no name, no address, no story. It was unsettling to be presented with so little history, and it became more so as we allowed ourselves to become intimately familiar with every detail of these bodies. My lab partners and I would know our cadaver's body better than any patient we would ever take care of; yet in her book of life, we were to begin with the epilogue and attempt to read backward.

Despite all the precautions taken by my medical school, my cadaver hardly remained an impersonal corpse with anonymous extremities. I remember unzipping the white bag that

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