



PERFORMING THE ART OF MEDICINE

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What is the art of medicine? This question is important not only to physicians who try to practice that art, but to the patients who benefit or suffer from physicians' attempts. Many doctors think of the "art of medicine" as the unscientific part, the material that won't appear on their recertification exams or help to save a patient's life. For many patients, the art of medicine is bedside manner, the way the doctor delivers the news rather than the news itself. Patients expect this art to comfort and console.

Unlike literature, the art of medicine is much more than words. It is a performing art that relies on gesture, props, and stock characters and is situated somewhere between daytime television drama and religious ceremony. Because I am a doctor, I like to believe that there is science going on too; that the pills or procedures work even if you don't believe in them. Often, though, they don't work as well without medicine's healing rituals to frame them. One of the major challenges of medical research has been to untangle medical effects from the placebo effects created by a doctor's authoritative prescription.

Medical rituals have received more attention from anthropologists than from humanists and artists interested in the performing arts. Since Talcott Parsons introduced the concept of the sick role in 1951,¹ sociologists and anthropologists have appropriated theatrical terms such as "role" and "actor" to describe the participants in medical interactions. However, the goal has typically been to construct larger social theory, and scholars have rarely focused on the acting techniques that patients and doctor use to embody their roles. That's a shame. Medicine's theatrical trappings—the operating theaters, the costumes such as the doctor's white coat and the patient's Johnny gown, the formalized lines and gestures—all contribute to an aesthetic ritual which gives emotional meaning to doctor-patient contact that transcends the notion of a cure.

Performance studies could illuminate the art of medicine in ways that have real-world implications for changing the practice of medicine. One way to see those implications is to contrast performance studies with narratology, the current dominant approach to medical humanism. Narratology's influence on teaching bedside manner has generated a discipline called narrative medicine or, to stress the theory's practical applications, "interventional narratology."² Humanities courses on narrative medicine assign literature about illness in the hope that doctors will have empathy for their patients' stories in the same way they feel the pain of a character in a novel. Many doctors, from Chekhov to Michael Crichton, are also writers.

¹ Talcott, Parsons. "Illness And The Role Of The Physician: A Sociological Perspective." *American Journal Of Orthopsychiatry*, 21(3):452-60, 1951 Jul.

² Wood, J.H. "Interventional Narratology: Form And Function Of The Narrative Medical Write-Up." *Lit Med*. 2005 24(2):283-96.

As a physician, I'm used to beginning all my journal articles by denying conflicts of interest such as being in the pay of a pharmaceutical company. In this essay I do have a bias, but it is not the typical bias towards narratology of a doctor who is also a writer. Although for many years I was zealously committed to the value of narrative medicine, two firsthand experiences convinced me of the practical value of performance theory in medicine. It's fitting that one experience was comic, the other tragic. I'll save the tragic one for later.

The comic experience occurred after I wrote a book that reflects my love of narrative literature. The book described brain systems that can produce compulsive writing, hypergraphia, and its opposite disorder, writer's block.³ Improbably, the book became the basis for a TV doctor drama about a hypergraphic doctor. The pilot episode was filmed, though never distributed.

The actor who played "me," Ever Carradine, had picked up several of my mannerisms by watching old TV clips where I appeared. Friends later asked me whether it felt degrading to be played by a tall blonde with legs from here to tomorrow. Actually, no. What was disturbing was that she had a better bedside manner than I did. She explained things to her "patients" at a relaxed pace, made better eye contact with them, and when patients complained of pain, she tilted her head in a sympathetic way that I later tried to duplicate in my own clinic. Life imitating art imitating life. Her behavioral repertoire was also more flexible than my formulaic one. Each time the director re-shot a scene, she would try a new intonation or gesture.

Her ability to modify her behavior contrasted sharply with an event in my hospital practice that happened soon after the pilot's filming. One of my senior residents was giving a "death talk," a standard genre in our field, and was telling the family of an elderly woman that she would probably live only a day or two. The family was dramatically upset.

The resident knew the family's story well, and certainly felt their pain empathically. Indeed, it was making him frantic. He tried to control himself by folding his arms tightly and gazing over the family's heads toward the door. The family asked angrily whether we had done all we could—a natural response to a doctor who signaled that all he wanted was to be done with them.

There was nothing wrong with the resident's empathy; it just didn't translate into action that could help the family. He and I later discussed the room's heightened drama. I suggested that in future death talks he might make some eye contact and avoid crossing his arms. He said "That makes sense! I could never do it, though; not when people are so upset." I showed him a simple alternative to crossing his arms, namely sitting with his palms held loosely open on the table.⁴ "Oh, I wouldn't feel natural acting like that," he said.

Narrative Medicine

Reading the Patient Like a Book

To prevent behavioral weaknesses like my resident's, medical schools often resort to narrative medicine courses. The approach started from the influence of *The Illness Narratives*, by the anthropologist and physi-

³ Oliner, S.P. and P.M., *The Altruistic Personality: Rescuers Of Jews In Nazi Europe*. New York: Free Press, 1988.

⁴ That gesture, a "look! No weapons" signal of non-aggression, works as well when dealing with supervisors as it does with angry patients.

cian Arthur Kleinman.⁵ However, the field has been more heavily influenced by literary than anthropological approaches. Largely through the effort of Rita Charon, a physician with a PhD in English, narrative medicine has become institutionalized in medical school courses around the country. In 2009, Columbia University began a masters program in narrative medicine.

In narrative medicine, the art of medicine is literature. Narrative medicine encourages the doctor to practice close listening to the patient's discourse—to “read the patient like a book.” The doctor then retells the patient's story, either directly to the patient, or to the patient's other doctors. The role models for narrative competence are physician-writers like William Carlos Williams and Walker Percy, as well as non-physician writers like Tolstoy, whose short story “The Death of Ivan Ilyich” is often used to help doctors deal with disagreeable patients. Courses in narrative medicine typically ask students write reflective pieces about real patients after meeting with them.

Physicians have justified narrative medicine in three ways: as a practice that helps the patient feel better through the doctor's empathic retelling, as an exploration that could get the patient more accurate medical treatment, and as a way to help the doctor feel more engaged in the patient interaction. A fourth justification, that the narratives might be aesthetically valuable in their own right, is relevant to narratology as pure literary criticism, but less relevant to the applied narratology I am discussing here. Practical benefits to patient and physician are in theory testable, since there are increasingly powerful ways to measure patient and physician satisfaction.

Interventional narratology assumes that empathy increases altruistic behavior. Unfortunately there is little real-world evidence for this claim⁶ One study of people who during World War II rescued Jews showed the rescuers did not have any greater ability to empathically feel others' emotional states compared to non-rescuers.⁷ Indeed, a strong ability to feel another's pain may simply drive you to run from it, rather than to stay and help.

For patients, there are data that their own narrative writing helps them. In studies that ask patients to write emotionally about their health experiences, the patients' sense of wellbeing increases. So, remarkably, do objective measures of their health, such as lung vital capacity in people with asthma, or joint flexibility in people with rheumatoid arthritis.⁸ But narrative medicine encourages the doctor to write, not the patient. It remains to be seen whether it makes you feel better to have someone else take your story and tell it for you. A critical factor is the doctor's skill as a narrator. Another key variable is whether the patient ever gets to hear the doctor's version. Doctors compose most narrative descriptions of patients after the patient meeting. Their writing ends as stories told to supervisors or colleagues, not to the person who matters most.

Aesthetization and Anaesthetization

If we nonetheless assume narrative medicine does help some doctors, what might be the mechanism? One way it might help is through aesthetizing the patient's story, by giving it the appealing luster of art. Almost any activity that makes it more interesting or pleasant for the doctor to think about the patient would help

⁵ Kleinman A. *The Illness Narratives: Suffering, Healing, And The Human Condition*. New York: Basic Books, 1988.

⁶ Keen, S. *Empathy And The Novel*. New York: Oxford University Press, 2007.

⁷ Oliner, S.P. and P.M. *The Altruistic Personality: Rescuers Of Jews In Nazi Europe*. New York: Free Press, 1988.

⁸ Smyth, J.M., A.A. Stone, A. Hurewitz and A. Kaell. “Effects Of Writing About Stressful Experiences On Symptom Reduction In Patients With Asthma Or Rheumatoid Arthritis: A Randomized Trial.” *JAMA*. 281(14):1304-9, 1999 Apr 14. UI: 10208146

the doctor to care for the patient more thoughtfully. Most experienced physicians have developed emotional calluses to help them handle the suffering they witness daily, and these calluses dull their engagement with the patient. Turning the patient's story into a literary narrative can reawaken the doctor's emotions the way art should. It can defamiliarize⁹ a stock patient they think of as "the gangrenous foot in room 14" and turn her into someone worth caring about, a former dancer who fears her husband will leave her after the foot amputation. Of course the ability to make us see the world with fresh eyes is not particular to literature, but is also a characteristic of drama. In all art, aesthetization opposes the process of anaesthetization that overexposure to suffering can bring.

Young doctors don't start out callous. Studies show that their empathy starts high, and decreases every year through their residency.¹⁰ For doctors who are still painfully sensitive, who still suffer each time their patient dies, narrative medicine has an interesting second function in that aesthetization also provides a certain degree of anesthetization. Aesthetic appreciation, despite the word's Greek root, "feeling" is typically less ardent unadulterated real-world feeling. In the world of art, we can shed a tear at the death of Camille, but at the same time console ourselves with the knowledge that she is imaginary. A doctor who writes of his tubercular patient as a tragic figure like Camille, pays more empathic attention to her pain and fragility, but also protects himself from that suffering by making it less real. Aesthetization counters pain with the pleasures of art—shapely metaphors, symmetry, surprise. Aesthetics' anesthetic qualities are nothing to disdain. Art's ability to make suffering bearable is one of the reasons we value it.

Now, to value art for its usefulness is something that an engineer would do. It turns art into craft, or propaganda. But the art of medicine is not high art. Rather than the works that literary critics write about, its analogue is the popular novels that people buy every day for reasons including consolation and wish-fulfillment. It the art that we hope can become real.

Performance Studies and the Drama of Medicine

Why Doctors Don't Like Theater

But that blur between art and life brings us back to performance studies. While it may be that the art of medicine can become the subject of literature, the art of medicine *is* drama. It is not enough that doctors be able to read patients like a book, however close and empathic their reading. Doctors and patients interact.

Yet the comprehensive Literature and Medicine database at New York University Medical School lists 2500 works of creative literature related to medicine, but only 250 films and plays. Why is this? The first reason is economic. Producing a film or drama requires much more money, resources, and interpersonal skills than publishing a novel does, so there are simply fewer productions. In medical training, too, it is easier to assign readings from William Carlos Williams than to videotape and review doctors' interactions with patients, or to arrange role-playing improvisations.

⁹ Defamiliarize, here, is used in Viktor Shklovsky's sense. See Shklovsky, V. "Art as Technique," in *Literary Theory: an Anthology*. Ed. Julie Rivkin and Michael Ryan. Malden: Blackwell Publishing LTD, 1998. <http://www.fas.harvard.edu/~cultagen/academic/shklovsky1.pdf>

¹⁰ Hojat, M. and M.J. Vergare, K. Maxwell, G. Brainard, S.K. Herrine, G.A Isenberg, J. Veloski and J. S. Gonnella. "The Devil Is In The Third Year: A Longitudinal Study Of Erosion Of Empathy In Medical School." *Academic Medicine*. 84(9):1182-91, 2009 Sep. UI: 19707055

Drama's expense paradoxically cheapens it. To cover production costs, a film or a play must have a wider appeal than a novel needs to have. That popularity confirms theatrical productions' status as public or "low" arts. Even drama's greater power to engage the emotions has made it seem less refined. Television's status as a popular art has traditionally made academics squeamish.¹¹ Professors of medicine in particular are conservative culturally, and typically feel it is more dignified to quote Dostoyevsky than *General Hospital* to their students. That is unfortunate, since patients get many of their beliefs about how they and doctors should behave from television shows. Soap operas have even changed patient health practices, for instance by making the public aware of cancer screening.¹²

A second, historical reason why the doctors dislike the dramatic aspects of medicine stems from their desire to separate themselves from faith healers and quacks.¹³ By the eighteenth century, medicine had become a literally theatrical profession based on medicine shows. University-based doctors worked hard to separate themselves from quacks. This was no easy job, since the cure rates of eighteenth century doctors were not clearly higher than those of faith healers. What doctors could do was shun the *techniques* of the faith healers—their laying on of hands, charisma, and other aspects of therapeutic bedside manner. Of course, by giving up a warm and emotionally charged persona for a scientific detachment, the academy physicians were not acting more naturally—dispassion in the face of suffering is a difficult performance. The academy physicians were merely inventing a new theatrical convention of impassivity, one that has persisted to the present day.

Sympathetic Action Vs. Empathic Perception

Because dramas show actions, and cannot describe internal emotions and motivations the way that novels can, they change the focus of medical plots from empathic perceptions to sympathetic action—the external behavior in which one person demonstrates their desire to aid another. Just as drama is a much older art form than the novel, sympathy is a more venerable and vernacular word than empathy. Shakespeare's dramas use it many times. He never spoke of empathy because the term is a neologism coined by an art critic around 1904.¹⁴ "Empathy" was coined to describe what it means to take the point of view of a fictional character, for whom the reader cannot show natural sympathy.

It was psychoanalysts who began to apply the word "empathy" to real people, because psychoanalytic theory restricted them from expressing sympathy. Even now, psychiatrists who teach bedside manner courses define "sympathy" as the expression of a desire to help a patient because you feel sorry for him. They teach that sympathy is suspect because it can lead to condescending or distracting expressions of pity. They teach students to listen more carefully to patients with the adage "Don't just do something, sit there."

Physicians in more action-oriented specialties such as surgery find this approach alien. They have their own rationale for avoiding sympathy. They think action is important, but see expressions of sympathy as

¹¹ A good example and parody of this squeamishness appears in the theatrical prologue of Goethe's *Faust*, where a mercenary director and a fame-seeking actor debate with a poet, who aspires to create a work of art. Most productions of *Faust* mirror high art's disdain for popular art by having man who plays the prologue's poet reappear in the body of the play as Dr. Faust, whereas the man who plays the prologue's actor reappears as Mephistopheles.

¹² Davin S. "Healthy Viewing: The Reception Of Medical Narratives." *Sociology Of Health & Illness* Vol. 25 No. 6 2003 ISSN 0141- 9889, Pp. 662- 679.

¹³ Porter, Roy. *Quacks: Fakery & Charlatans In English Medicine*. Charleston, SC : Tempus, 2000.

¹⁴ Russell Scott Valentino, "The Oxymoron Of Empathic Criticism: Readerly Empathy, Critical Explication, And The Translator's Creative Understanding," *Poroi*: Vol. 4: Iss. 1 (2005) 108-114. Available at: <http://ir.uiowa.edu/poroi/vol4/iss1/7>.

the wrong kind of action, a time-consuming low-status behavior that doesn't save lives. Since the gamut of specialties from psychiatry to surgery deemphasize sympathy, it's no surprise that medical students find few doctors to teach them how to act sympathetically. Students do some empathy exercises in which they imagine themselves in a patients' shoes, but never get formal instruction in tone and gesture—questions such as when it is calming to put a hand on the patient's shoulder and when it is invasive.

This is unfortunate, since what patients experience are not the doctor's private experiences of empathy, but audible expressions of sympathy. Most patients wouldn't want their doctor to truly feel their pain; we wouldn't wish that on a dog. A doctor's unempathic but sympathetic statement "I can't imagine how painful that must be; I'd like to treat it" is more reassuring than the empathic statement "I feel your pain," especially because the latter pronouncement has, in the course of our lives, so often preceded phrases like "But no, you can't have the car keys." Patients feel, rationally or not, that a sympathetic desire to help is more likely than a bloodless understanding to actually motivate their doctor to help them, to take their pain away.

Acting Sick

Like doctors, patients want to believe that their suffering is objectively real in a way that transcends their expression of it. Patients' need to show that they are not "just acting" sick is the reason so many back pain sufferers are thrilled to have their spine MRI show a disk herniation. This finding should be bad news, but it gives them license to say "my pain is real." That license is cultural convention, not medical fact, because studies that show 30% of adults have disk herniations that are painless.¹⁵ Despite the imperfection of diagnostic techniques such as MRI, as patients we cling to them. They are our best hope to show others and ourselves that there is more to justify our patient status, our wincing, our limps, and our absenteeism.

To act sick well can be a challenging business in Western medicine. The way we communicate pain is complicated for patients and doctors alike, because of pain's mix of innate and learned signifiers. No one has to teach us how to scream in distress, but they do have to teach when to suppress it. Thus people with a background of childhood neglect often have pain behavior that seems abnormally exaggerated, because when they were growing up, they learned that their parents would notice their distress only when the dramatically broadcasted their symptoms of pain. When such people are in pain, they don't play the sick role well because they don't know how to act sick effectively.

Many people who overact or underact their pain, who are hypochondriacal or over-stoic, get inappropriate medical care. When a patient goes to an emergency room with a migraine, what determines whether she gets treatment depends entirely on how well she plays sick. If she has the lights turned off, lies flat, looks pale, and describes her pain in a quiet voice, her pain is more likely to be taken seriously than another patient who moves her head normally, doesn't avoid light and noise, loudly demands particularly potent pain medicines by name, and specifies the dose. The ER doctor is more likely to dismiss the latter patient as drug-seeking, both because of her impatient assertiveness, and because migraineurs typically avoid loud noise and movements.

Another group of pain sufferers who don't act sick well are those who come from cultural traditions of restrained emotional communication. One woman I know, who was both an academic and a WASP, was upset by the way her internist ignored her complaints of back pain. It turned out that the way she complained was to say drily, near the end of each visit, "That severe back pain still bothers me." For a doctor,

¹⁵ Boden, S.D., D.O. Davis, T.S. Dina, N.J. Patronas and S.W. Wiesel. "Abnormal Magnetic-Resonance Scans Of The Lumbar Spine In Asymptomatic Subjects: A Prospective Investigation." *J Bone Joint Surg Am.* 1990 Mar;72(3):403-8. PMID: 2312537

the loudness and frequency of a patient's complaints are an assay of her pain, and this undemonstrative patient never reached the doctor's response threshold.

Verbal complaints and nonverbal signals such as tears are physical symptoms of an illness. They are important for medical diagnosis, and indeed are products of the diseased body as much as jaundice, a limp, or elevated liver enzymes are. As the theorist Jacques Lacan wrote, "symptoms are a language and can be deciphered like an inscription" ("...le symptôme hystérique montre la structure d'un langage et se déchiffre comme une inscription").¹⁶ The tablet into which nonverbal words are carved is the body, and the words are written in a much more powerful language than English (or even French....).

Performance Theory Helps Medical Practice

Performative analyses of medical practice could help change doctors' practices by emphasizing how gesture can communicate not only emotion but also medical information. More concretely, dramatic simulations of medical events can change medical techniques. Operating theaters have a problem that most theaters do not, which is that people on stage really die. By contrast, artistic theatrical performances, like children's imaginative play, create a conceptual space to try out ideas and practice skills without real world consequences. Simulations of the operating theater and other medical scenarios allow physicians to practice techniques on something other than already-suffering patients. Until recently, cadaver labs were the only places where doctors could practice medicine without hurting people. Now they have an array of options.

An important trend in medical training has been the use of "standardized patients" played by actors in the Objective Structured Clinical Examination (OSCE). OSCEs test student performance as they interact with actors who have been trained to embody roles such as that of a homeless patient with chest pain, or a mother whose child has just been diagnosed with cancer. The actors not only act sick, they then help grade the medical students' bedside manner along with a physician examiner who also comments on the student's medical decisions. These exams help doctors learn to act as well as think.

Artificial patients and computer-based simulation of clinical settings have added another dimension to medical training. Both allow doctors to safely practice techniques used in life-threatening situations. Instead of the old Resusci-Annie doll formerly used to teach CPR, doctors can now interact with dummies that not only have lungs to inflate, but also veins in which to insert intravenous lines, bones that fracture and repair, hearts that generate arrhythmias, and voices—the dummies can talk. Medical simulations are fast becoming integral to the safe development of new techniques as well as the rehearsal of existing ones.

Science Vs. Art

The Biology of Acting

Performance theory's focus on the art of medicine does not have to ignore medicine's biological aspects. Indeed, performance depends on biology. The placebo effect is a classic example. The placebo effect occurs when a patient's expectation that a treatment will help causes a subjective experience of benefit. The placebo effect is not restricted to pills; it may be a surgical treatment, a laying on of hands, or simply a confident assertion—"You will get better!" What shapes the patient's expectation is the doctor's perform-

¹⁶ Lacan, J. "Sur La Parole Et Le Langage" *La Psychanalyse*, 1956, pp 81-166.
<http://www.ecole-lacanienne.net/documents/1953-09-26b.doc>

ance. Physicians who are skilled at playing doctor can produce large placebo effects; physicians with poor bedside manner may produce no expectation of success.

The placebo effect is a product of medical theater, but it is also a neuroscientific phenomenon that depends on the brain's ability to release its own opiates, the endorphins.¹⁷ A sugar pill that blocks pain does so through the same mechanism as morphine. Drugs like naltrexone that block morphine's action also block patient's ability to respond to their endorphins and thus to placebo interventions.

Conversely, patients' expressions of suffering have biological effects on doctors. The neuroscience behind how we sense another person's physical state and emotions has become a fascinating and productive area of research that has implications not only for doctor-patient interactions, but also for aesthetics, literature, and performance studies. Because social interactions are so important for human survival, a number of specialized brain systems have developed to control interpersonal behavior.

The best-known of these mechanisms is the mirror neuron system.¹⁸ Mirror neurons and related cells make it possible for us to predict and respond to others' emotions, not through cognitive understanding, but through direct activation of our own bodily sensations. In one sense, mirror neurons lay a map of the other's body over our own, so that when we witness someone receive a needle into a particular muscle, we unconsciously tense that muscle in our own bodies.

Mirror neurons are important for empathy and action planning. They also aid imitative learning such as language acquisition. However, mirror neurons' stronger ties to physical gesture are one of the reasons that language does not transmit emotion as directly or vividly as does nonverbal communication through smiles or tears, fist-pounding or trembling. Nonverbal communication can't transmit as many ideas, or ideas as flexibly, as words. But what it does say, it says much more loudly—both literally and metaphorically. When we send discordant signals with word and expression the nonverbal signals typically dominate our audience's emotional reaction.

One of the rare exceptions to the dominance of nonverbal communication is seen in highly trained academics, who can learn to ignore bodies—at least for short stretches. I once saw a critic at an academic conference greatly annoy the speaker by saying “Well, *that's* a really smart idea” with a sneer. When the speaker replied angrily, the critic said with indignation, “There was nothing objectionable about my words!” It takes many years immersed in books to make someone believe his vocal tone and facial expression are irrelevant to his words. It is perhaps not a coincidence that the critic was a linguist.

Many physicians have trained themselves to be equally blind and tone-deaf. They focus on the patient's jaundice and pass over the way her eyes are wide with fear. Although their motivation is sometimes to avoid feeling empathic pain, more often it is a need for triage that drives them. They need to finish that procedure quickly, so they can see the sick patient next door.

The researcher Paul Ekman has shown that our performance of basic facial expressions and emotional responses to them are in part biologically determined.¹⁹ Even children who are born blind will smile normally, although they have never seen another smile. Of course, the meanings of many expressions and gestures are culturally shaped; for instance, in Greece the thumbs-up sign means “screw you.” When a

¹⁷ Sauro, M.D. and R.P. Greenberg. “Endogenous Opiates And The Placebo Effect: A Meta-Analytic Review.” *J Psychosom Res.* 2005 Feb;58(2):115-20.

¹⁸ Cattaneo, L. and G. Rizzolatti. “The Mirror Neuron System.” *Arch Neurol.* 2009 May;66(5):557-60. Review. PMID: 19433654

¹⁹ Ekman, P. “Facial Expression And Emotion.” *Am Psychol.* 1993 Apr;48(4):384-92. Review. PMID: 8512154.

doctor or a theater actor knows which meanings are universal and which are not, they can communicate more powerfully to people with a wider range of backgrounds.

Although people can produce and recognize expressions without training, explicit training can help significantly. One example is the ability to discriminate between emotion-driven smiles that express happiness and social smiles that express agreement. Both smiles activate the muscles, which pull the corners of the mouth sideways. Emotional smiles also activate the zygomaticus and orbicularis oculi muscles, which lift the cheeks and produce crowsfeet wrinkles.²⁰ Although emotional smiles are sometimes called real and social smiles are often rejected as fake, it is more accurate to think of social smiles as a universally understood OK sign or expression of conciliation. Some people are worse than others at noticing the difference.²¹ People who are socially more popular or are of high socioeconomic class are typically worse at recognizing fake smiles, and at detecting others' emotions in general than are people of low status.²² It may be that other people's emotional state is less relevant when you think they will do what you say whether they like it or not.

Through training we can also unlearn our natural emotional responses. Medical training is a prime example. One experiment compared the brain activity of normal people and doctors when witnessing another person experience the pain of a needle-stick. Normal, untrained people had brain activation in areas important for empathic response. Doctors had much less activation. Their empathic brain activity looked more like that of people with autism, who have trouble feeling and understanding others' emotions. Instead, doctors had more activity in brain areas important for emotional control. When doctors use flat, inflectionless speech to relay bad news, they are to some extent making the same mistake that the linguist did when he neglected his own sneer.

Acting Vs. Feeling

The doctors' response points to a paradox in medical education and performance. We need our doctors to be immune enough to our suffering that they can bear to continue to help us. Yet we also want them to show us some emotional response, to mirror our distress enough to reassure us that they care, and that they understand our pain enough to want to help it. Performance studies have long grappled with this tension, which arises when actors try to perform the emotions of a character.²³ In the last century, the tension was often expressed in comparisons between method acting and representational acting.

Performance studies, by blurring the difference between art and life, also draw attention to the fact that representational acting happens off the stage as well as on. The idea that doctors might perform the medical equivalent of representational acting frightens us. We don't want to think their sympathetic expressions are just pretense. However, although acting can be misused, in that respect it is no different from any other medical tool. To encourage doctors with few natural graces to "just be themselves" is worse than

²⁰ Incidentally, the claim that mothers sometimes make, that that it takes more muscles to frown than to make a happy smile is not true. That's only true for social smiles.

²¹ The BBC website [<http://www.bbc.co.uk/science/humanbody/mind/surveys/smiles/index.shtml>] provides a test and training in the ability to discriminate between social and real smiles.

²² Kraus, M.W., S. Côté and D. Keltner. "Social Class, Contextualism, And Empathic Accuracy." *Psychol Sci.* 2010 Nov 1;21(11):1716-23. Epub 2010 Oct 25. PMID: 20974714.

²³ Indeed, the philosopher Diderot described it in his 1758 work "The Paradox of Acting." Diderot, Denis. *Paradoxe sur le comédien* (1758). Trans: Pollock, W.H., London: Chatto and Windus, 1883. <http://www.bergfiles.com/i/bf6b992dah17i0>.

to teach them to act well, since doctors' sense of what being natural means has been disorted by years of training in how to look impassive, to hide their own fear during crises.

A personally vivid example of the importance of acting sympathetic, in distinction to feeling empathy, occurred during my own medical care when I had a complicated pregnancy with twins. The obstetrician was a shy but thoughtful man who worked tirelessly on my behalf, and all his clinical decisions showed he understood my personal goals and needs. Despite that, my twins eventually died in childbirth. After their deaths his emotional behavior, which had always been slightly restrained, became almost robotically emotionless. That was natural for him; I knew he was not only the product of modern medical training but an introvert by temperament. I also knew from colleagues that he was privately very upset. So, intellectually, I was completely convinced of his empathy. But the fact that he showed no bodily sign of it and never expressed sympathy even by briefly looking sad overpowered all of my logical beliefs about his mental state. Despite much effort to be rational, I experienced his stony expression as not just dispassion but active dislike. It was a disorienting and painful experience that had a permanent effect on me, not least because it forced me to rethink my own rather wooden bedside manner.

In the following years, as I practiced acting more sympathetically, I also learned firsthand the truth that to act sympathetic can actually make you feel more sympathetic. What our bodies do, our emotions often follow. When we voluntarily make a sad face, it lowers our mood. Similarly, when we suppress our smile, we also suppress the happiness that our smile embodies.²⁴

Neuroscience can explain how this happens physically in a way that is compatible with psychological explanations, rather than overriding them. The facial feedback is mediated by brain pathways that connect action and emotion areas. This is how the mirror neuron system helps us not only imitate but feel others' emotions. If you see someone else trembling, the mirror neuron system makes your own muscles shake as well, although to a lesser and typically subliminal degree. Your brain, sensing this trembling, interprets it as your own emotion. In this way, representational acting can lead to method acting. The distinction between the two methods is sharper in theory than it is in real life.

The difficulty of separating method acting from representational acting was dramatic in a surgical resident with whom I once worked. His bedside manner was remarkably thoughtful and sympathetic, not just by the somewhat narrow standards of surgery, but even compared with doctors in general. Yet the minute he stepped out of a patient's room, he switched to a scathing black humor in which he skillfully ridiculed his patients along with every other aspect of medicine.

At first I was disturbed by what seemed the insincerity of his sympathy. However, the longer I watched both the constant delicacy of his manner when he was with patients and the long hours he was willing to put into each of their care, the less I could dismiss his acting as deceptive. The consistency of his actions with the patients seemed more important than what he expressed away from them.

Could we excuse his black humor as a defense mechanism that protected him from the pain of seeing so many patients suffer? I don't know if we should try to explain it away so easily. My ultimate impression was that he simultaneously cared for his patients and found them ridiculous—the two emotions don't cancel each other out. In his ambivalence he was not unique; it's just that most of us reserve that complexity of emotion for family members.

Knowledge of the physiology of emotion can help theater actors perform. For instance, scientific studies show that the most effective way of convincing a viewer that you are in real pain is not to express pain

²⁴ Soussignan R. "Smile, Emotional Experience, And Autonomic Reactivity: A Test Of The Facial Feedback Hypothesis." *Emotion*. 2002 Mar;2(1):52-74.

directly, since a pain gesture such as a wince can so easily be amplified or simulated. More convincing is to show signs of pain suppression, such as holding the eyes wide open to suppress a wince, or compressing the lips to suppress a grimace.²⁵ Recent works of performance theory have begun to incorporate neuroscientific findings.²⁶

Often actors and directors can realize implications of emotional neuroscience that we scientists miss. Once, for instance, I was talking at a party with the Obie-award winning actress Maude Mitchell. I mentioned to her that the left side of the face tends to look sadder than the right because the brain hemisphere that controls it is specialized for generating sad emotions. “Oh!” she said, delighted. “Then when I am in a tragic scene, I should show my left profile to the audience, not the right.”

It is easy to fear science as a reductionist enterprise that will take away the part of us that has freedom to choose, that makes art possible. But everything can be misused, and scientific understanding of emotional behavior is in this respect no different from the art of representational acting. Both are also enterprises with great power for good. Performance theorists and dramatic actors, doctors and patients, all could benefit if medicine becomes a subject for performance studies. Such analyses might help doctors and patients realize that acting skills are crucial for their communication, and theatrical actors learn more about how their bodies generate emotional behavior.

²⁵ Williams, A.C. “Facial Expression Of Pain: An Evolutionary Account.” *Behav Brain Sci.* 2002 Aug;25(4):439-55; Discussion 455-88.

²⁶ Blair, R. “Cognitive Neuroscience And Acting: Imagination, Conceptual Blending, And Empathy.” *The Drama Review.* 53(4):92-103, 2009.