

Reclaiming our Hearts

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The world is too much with us; late and soon,
Getting and spending, we lay waste our powers;
Little we see in nature that is ours;
We have given our hearts away, a sordid boon!

—William Wordsworth

Atul Gawande¹ questions the “cost of our caution” in medicine’s reluctance to perform the risky, experimental procedures that once kept the most critical of patients alive (70). These bold steps, exemplified by the career of Dr. Francis Moore, were part of a philosophy that espoused saving lives at any cost. But even Francis Moore, later in his life, had second thoughts when he began urging the medical community to emphasize the inevitability of death, and perhaps even “recognize euthanasia as a part of [a doctor’s] responsibilities.” Moore’s own change in philosophy was perhaps a reaction to how some surgeons act invincible—when the experimental surgeon cuts open a human as an act of benevolence, and in the name of progress, willingly, selfishly holds the balance of life in his or her hands while deciding to push the boundaries of medical science forward, often with a blind eye to the lingering pain and suffering caused by such efforts. What Gawande fails to realize is that the “courage to fail” that he so admires in the career of Francis Moore, not only ignores the costs of our drive to tear people apart in order to put them back together again, also pushes the progress of medicine in a direction that causes society to become more dependent on medicine. There is a high cost to this form of progress: trading and dealing in extending the inevitable, where the rewards are often speculative. But if we are not pressing relentlessly forward in the pursuit of novel medical treatment, we might well be preventing discoveries that would, as did Moore’s discoveries, change the landscape of medicine.

Andre Aciman,³ in his investigation into what he describes as the literary and poetic “arbitrage” that Wordsworth² used in writing “Tintern Abbey,”

provides an interesting metaphor that points toward the fields of medicine and science:

Wordsworth at Tintern Abbey, it occurred to me, was doing more or less what I was doing in this girl's room: firming up the present by experiencing it as a memory, by experiencing it from the future as a moment in the past. What Wordsworth remembers at Tintern Abbey is not the past but himself in the past imagining the future; and what he looks forward to is not even the future but himself, in the future, retrieving the bone he buried in the past. He purchases at the Exchange of Time what he sells at the Exchange of Place, knowing that, at the end of the transaction, he'll borrow from Place to purchase from Time to sell back to Place all over again.

Aciman's observation³ is deeply rooted in his own estrangement from his native home of Egypt. What he sees in Wordsworth's poem converges with his own experience of being displaced: a sensual and cerebral effect of being in exile, where even the most mundane of experiences produces a rich connection to his past life. In one instance, as Aciman sits in a young woman's apartment at Cambridge, he experiences a sensation he remembers from Rome that calls to mind his first home of Alexandria. This experience even doubles back on itself when he explains that "in writing about Egypt in New York City years after that, I found myself remembering impressions that took me back not to Alexandria but to Rome and ultimately to Cambridge"³.

In keeping with his observation of Wordsworth, there is a simultaneous exchange with respect to place and time. Aciman's exchange of memories, spurred by a moment in the present, initiates his own contemplation of a future when he returns to those places where he once lived. So through this process of exchange of Time and Place, it is as if Aciman and Wordsworth stand at a crossroad where all points of memory and imagination converge, and where anticipation and realization coexist.

Where Wordsworth and Aciman trade at the "Exchange of Place" and the "Exchange of Time," science and medicine in their capacities as creative forces derive their influence in much the same manner. Medical discovery as a scientific method builds upon itself continually, "firming up" present research by expanding on research of the past. With each step of the discovery process, scientists anticipate their goal of a future changed by the invention of novel techniques. When applied to experimental surgery, such medicine often kills more patients than it saves at first. But the casualties and the small victories that offset them are events that build successful technique and protocol. Each operation, successful or otherwise, is a point of exchange. The

failures bear a profit in identifying what in the procedure is wrong, and the successes similarly point to and confirm what is being done correctly. The process builds on itself and, as Aciman reveals, is part of a perpetual process of borrowing and selling and re-borrowing and re-selling, and it describes the engine of medical progress. The surgeon knows he will return to the operating table for this transaction again and again because we demand it.

This, in the world of finance, is called “arbitrage”: the purchase of securities in one market for resale in another. As soon as a profit is made, the cycle starts again, with subsequent purchases sometimes paid for with unrealized credit drawn from previous sales. In such transactions, one never really sells a commodity, much less takes delivery of anything. One merely speculates, and seldom does any of it have anything to do with the real world.³

Medical arbitrage, however, is not necessarily profitable, and the results have everything to do with the real world. Medicine, specifically experimental surgery, is highly speculative. While the death of a patient can be an unrealized credit for medicine, the patient is the one who shoulders all the risk and pays the ultimate price. The benefit for the critical patient is dubious, because, as Francis Moore emphasized later in his career, “science [keeps] people alive too long.”² Moore, the “invincible” experimenter and the driving force who pushed the boundary of acceptable medical practice to its limit, “backed off” from his earlier position that “death...must never be seen as acceptable.”² Maybe Moore had made enough purchases at the “Exchange of Life” selling to the “Exchange of Death” to question whether the arbitrage used to save the lives of his patients (among the most critically ill) was suitably advantageous. If a life is at a point where we are pushed to think of *anything* to save it, we should question whether or not extending that life is a blessing or a burden. Perhaps the Francis Moore whom Atul Gawande admired most was really the young doctor for whom, in Aciman’s words, “the very act of anticipating an epiphany becomes the epiphany itself.”³ In this case, Moore’s epiphany is the novel procedure that will save a life, and the act of anticipating the epiphany continues throughout the refinement of the surgical experimentation. Granted, Francis Moore saved thousands of lives from the work he pioneered. The lasting benefits of his work are, indeed, a testament to the inherent value of the “courage to fail.” However, the “courage to fail” has to be reconciled with the price of that failure, and the degree to which the success is valuable, and in some cases, tolerable.

It seems to be a common conception that the medical arbitrage demonstrated by Francis Moore is the best solution to our problems. In a recent

article in *The New York Times*, Gina Kolata quotes interventional cardiologist, Dr. David Hillis: “I think it is ingrained in the American psyche that the worth of medical care is directly related to how aggressive it is...Americans want a full-court press”; the full-court press referring to “artery-opening methods, like bypass surgery and stents.”⁴ The notion that the most invasive procedures are best for dealing with atherosclerosis persists among patients and even most doctors, despite recent studies that point to “boring old advice” as being truly the best advice for patients at high risk for heart disease: “quitting smoking, for example, and taking drugs to get blood pressure under control and prevent blood clotting.” Not included on the list, but indirectly associated with it, would obviously be diet change. So, what does it say when it has become so ingrained in our minds that invasive surgery, instead of a healthy lifestyle, is our best option for maintaining our lives? Surely we can point to many medical procedures that are crucial for maintaining health problems out of our control, but there are others, like bypass surgery and the insertion of stents into arteries, once at the fringe of medical practice, that have become so common that they have come close to being routine maintenance. Extraordinary numbers of people run a deficit in the area of their personal health by eating poorly and exercising little, if at all, and then gamble on medicine to save their lives “the way futures traders speculate on margin.”³ It is perhaps a particularly endemic, American mind-set. We have ignored the fact that prevention and the daily practice of healthy living offer us an exceptional value: the value of purchasing our future health at a discount. The arbitrage in building healthy individuals has a higher pay-off.

Working with a three-year-old stroke patient one summer at NYU Medical Center’s Rusk Institute for Rehabilitative Medicine, I was struck by the power of rehabilitation, a medicine that is so fundamentally based on human interaction. I met this child, Maxwell, on my first day of work, and in most respects, Max was no different from the other children who were also inpatients on the pediatric floor. Many of them moved about in wheelchairs, or hobbled along on crutches, convalescing from recent injuries or surgery and undergoing a daily routine of physical, occupational, and psychological therapy, along with recreational activities and in-house schooling. This was their home away from home.

The children swarmed down the hallway as they moved from one appointment to another, and mixed in between them were people like myself, volunteers and students, making sure each child got to the correct room, to the correct appointment. Little Max, being pushed in a wheelchair by his

mother or father, was always somewhere in the congestion outside the physical therapy gym just after lunch when I would arrive. At one o'clock the doors that held the children at bay during the therapists' lunch hour would open, and the calm gym would come to life with the cacophony of young voices. Max was three-years old, and he was partially paralyzed on his right side and had lost much of his speech.

I noticed Max because he was clearly having a hard time, and the therapists were a bit frustrated because Max refused to do anything. Since his speech was impaired, his way of dissenting was with a loud "aargh!" and a swipe with his good arm. I think the first thing he ever said to me was, "aargh!"; I believe I said, "Hey, Max, would you like to play with the farmhouse?"

"Aargh!"

His mother quickly stepped in and said, somewhat exhausted but jokingly, "Don't worry, he says that to everyone. Ha."

I wasn't looking forward to working with a thoroughly miserable three-year-old. But, sure enough, the following day, Max was on my schedule, and although I was apprehensive, I was determined to make a go of the situation. I was to entertain him while he was strapped to a "tilt table" for half an hour—a table on which his body would learn again to stand vertically. I could only imagine what would happen once he got strapped down tightly. I was going to prepare for the worst.

I thought if he were mad and upset, maybe he would throw something. I was still new to the place, so I frantically searched the closets of toys for items to be thrown, searching every corner of the facility. No one really had the time to help me, but thankfully I found some small beanbag-like animals and a bucket. I also brought back-ups: the formerly rejected farmhouse, with life-like farm animal sounds, and some cars.

Max didn't seem pleased to see what I brought him, but then again he wasn't pleased by anything yet, so I didn't take it personally. I placed the farmhouse in front of him; he swiped it to the floor. So, I went right to the idea I first had and said, referring to the beanbag animals, "Max, why don't you toss one of these doohickeys into the bucket?" And, as I handed one to him he got kind of quiet, and with his good arm he swiped the beanbag animal to the ground as he had done to the farm.

"No, Max. *Throw it.* You can even throw it at me if you want." Of course I was hoping he couldn't throw well with the good arm.

Max swiped it on the floor again.

"Max! *Throw it.* I know you can throw things. Throw it."

Again, Max swiped the beanbag onto the floor, and as soon as he did, I smacked my forehead in a partly dramatic gesture of disbelief and exclaimed “Aye!”

Max gave a little laugh. I didn’t think much of it at that moment. It was a small laugh. But he did laugh. So when he swiped the next beanbag, which I realized was quickly becoming our dialogue, I reacted as though I had been briefly electrocuted.

Max laughed heartily, and this time I heard one of the therapists off to my right ask, “Did Max just laugh?” But I barely heard it because Max and I were hitting on something, and I wanted to keep the momentum going. I also barely noticed his mother and father standing at the doorway watching.

Max swiped another animal off the table, and this time I only looked at him disappointingly, moving my hands slowly to my hips as if I were a crotchety old nun displeased by a naughty student’s antics. Max gushed with laughter, and if he hadn’t been strapped to the tilt table, I would say he had been rolling with laughter. To his delight and mine, his acts of defiance and my reactions continued for the next half-hour, and I was even presented with what had been the unlikely prospect of having to calm Maxwell down.

I was just happy to be having fun. So, I was caught off guard when, after our time together that day, Max’s mom brought me aside in tears and said, “The last time Max laughed was before his stroke. You were the first person to make him laugh. I just think you should know that.”

That was the moment I first realized how a simple act of exchange can open doors for a breakthrough. It was also the moment I *knew* I was going to be a physical therapist.

Maxwell and I found a moment of exchange that day, and that exchange, innocent as it seemed at first, turned out to be more profound for both of us. For Max, from that day forward his therapy progressed rapidly. By the end of the month he was chasing me down the hallway, and his speech had returned enough for him to begin forming words. As for myself, the experience was an entrée to my witnessing the incredible resilience of the young human body. My moment of exchange with Maxwell, and those subsequent moments we would have that summer were, combined, the finest acts of arbitrage—we were a profit-making machine: Max in his recovery, I in my learning. On that floor of the institute for rehabilitation, I stood at an Aciman-like intersection of past, present, and future with a child who unwittingly, in his own kind of exile, was an arbitrageur-in-training. I saw at once the young, spirited, impish child, and the future young man largely free of paralysis and full of vigor and hope. As well, I saw for the very first time, a viable future for myself in the

profession of healing, and it reminded me of those young, heady days in boarding school so long ago when I was the assistant to the school's athletic trainer: the days I spent taping up ankles and studying head injuries, the days before I deferred to a life in the arts. I had come full circle now: I had just experienced the epiphany of the future ahead of me.

There was another aspect of arbitrage in the rehabilitative work that was being done with Maxwell: it was investing in the healthy child, investing in the extraordinary plasticity and agility and excitement his body and mind possessed in order to achieve the "profit" of a renewed and vibrant life. Although the patients I worked with, like Maxwell, were exclusively children recovering from disease and injury, the spirit of recovery, and the commitment they had to the work of becoming stronger and healthier made them something more than medical statistics. They were innocents who, unlike the patients of Francis Moore, had a future ahead of them. In fact, had their whole lives ahead of them. These children were in the process of building those experiences in their lives which they would trade for other memories later in life, the memories upon memories that make up the arbitrage that Aciman writes about.

It may be that a great majority of us fail to see ourselves in the future, really see ourselves in the future enough to commit to the work of preserving our bodies and minds with a sense of urgency and purpose. As Wordsworth said, "The world is too much with us": the modern pace and concerns of life today lie not in personal health but, more selfishly, in "getting and spending." With work hours lengthening, less vacation hours and the work force becoming increasingly temporary, we worry more about how we will pay our next bills and get through the next month. Then, on the other hand we have overwhelming profit taking at the very highest levels of business, some of it even criminal. The general public seems to aspire to this example of great wealth, and we often value ourselves by how much we earn compared to our neighbors. But no one has yet to sound the alarm to tell us that our ship may soon run aground. What is the price we pay for a culture of money? This kind of profit taking, whether called "bringing home the bacon," or "living the American dream," is undermined by our lack of respect for our own quality of life. It would seem that as a nation, we would best be served by a new culture of comfortable modesty, within which we would emphasize simplicity and health.

What would happen, too, if the culture of medicine, the "science and ingenuity" Gawande speaks of, were redirected to discoveries of how to avoid the surgeries on which we have become dependent? How could we take that

spirit of Dr. Francis Moore and redirect it to emphasize preventative medicine and a radical restructuring of how we approach living: investing in the value of health instead of the perpetual cycle of pharmaceutical maintenance and surgical skirting of death that all too often define the endgame of our years. The effect would be to bring the focus of our lives and our work to the very thing that fuels the machine of our culture: ourselves. This humanistic approach isn't to be confused with vanity. Instead it is a necessary acknowledgement and valuation of something of which we have lost sight, a recapturing of the value of the human being.

The time has come for our culture to appreciate more fully the human costs of our success. If we really do care about such things as "family values" or "honor and dignity," it is time we dig deep down and reconcile the demands we place on ourselves and our workforce and how those demands test the American family and the personal dignity that comes with supporting it. The stress that comes with our relentless effort to bolster a bottom line is certainly one of the underlying reasons for our dependency on medicine and pharmaceuticals: we simply do not have the time for ourselves or our families. So, it is much easier to take a pill, to deal with the symptoms. But this is not good medicine. The underlying cause of our symptoms, the heart of the matter, is rarely addressed.

Our hope should be that the next great medical and scientific discoveries that motivate society in the broadest sense (medicine, government, culture, commerce) come in the form of telling us that the "boring old advice" is indeed the advice that we should have been paying heed to all along. That it is completely within our grasp to manage our lives in a hale and hearty manner, if we are given the tools and the information and take the time to use them. Perhaps we, as a nation, have reached that critical point where we will listen with renewed interest to medical advice separated from the commerce of medicine that so often wants us to "ask our doctor" about the next new drug on the television. That Atul Gawande questions the "cost of our caution" is emblematic of a nation critically dependent on the crutch of medicine and medicine's particular form of arbitrage. We can free ourselves from worrying about the cost of caution by instead reaching to our own ingenuity for healthy living. We could then worry less about dying or extending life at any cost, and begin concentrating on what it is to die with dignity.

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