but [is clearly suggesting to the public] that medical education is worth spending money for. The online educational institutions advertise "You want to come to our school, we will charge you some money and give you a good education conveniently — while you are at home or work. You do not have to go to a college campus of a fancy school, a bucolic place where people enjoy exploring the grounds."

I predict that the medical school of the future will be in a little building, and will not have a great campus; it will be online. There's not a medical school in this country that will allow you to take courses online toward a medical degree. Not a single one.

… Most people don't notice a monopoly, or that medical schools do not have a major interest in serving rural areas, the underprivileged, or those underserved. Many people know very little about medical education, and most do not know that the first two years of medical school are predominantly a matter of having a good memory. … Medicine is thought of as a very illustrious profession, yet it's not that difficult to learn. Thus, the commonly associated arrogance of physicians has always irritated the heck out of me.

… I wonder in truth if medical schools are not passé. Could the first two years of medical school possibly be learned at many fine undergraduate colleges, since these early years rely heavily on memory, predominantly? These colleges can bring you up to date on the present state of medicine. I consider the rest of medical school to be mainly "apprenticeship." Medical schools now tend to operate in specialized areas, the apprenticeship is no longer concerning the general care of the patient; it is, presently, quite narrow. In a university hospital you carry orders from department to department; most of the time these orders are not fully carried out, so it's sort of an operation fraught with inconsistencies. I don't think many people have honestly looked at medical schools the way that I have. I am a product of one of the best; I had a great career in spite of my criticisms.

I was not particularly interested in providing service to all people. I never thought about that until my later years; I knew the medical school wasn't that interested in that goal either. Now that I have grown older, I realize how ignorant I was for most of my career, and I am a little ashamed of what a slow learner I was.

Eugene A. Stead

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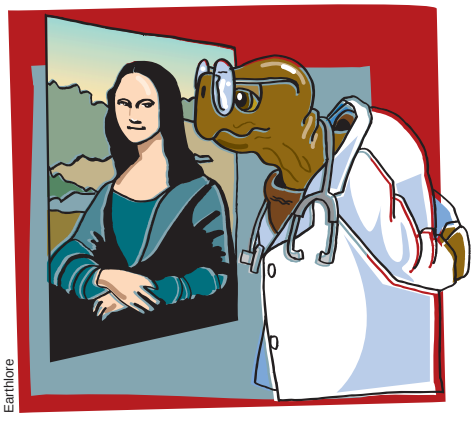
Essay Prize Winner

Darwinian pursuits with interruptions by Huxley: a brief pontification on medical education

Farrah Mateen

A troop of newly arrived students, very young, pink and callow, followed nervously, rather abjectly, at the Director's heels. Each of them carried a note-book, in which, whenever the great man spoke, he desperately scribbled. Straight from the horse's mouth. It was a rare privilege.
—Aldous Huxley, *Brave New World*,[1] p. 15

It's no secret: to get into a Canadian medical school nowadays is no small accomplishment. With only 16 schools, taking limited numbers each year, undergraduate medical students, on their first day of classes, are already overachieving superstars. Most will walk in with at least one degree — they are musicians, teachers, art historians and researchers, not to mention other health care professionals. Many will have lived abroad, taught English, learned multiple languages and performed charity work in a remote rural village. They will be scholastically brilliant (most transcripts unblemished by introductory chemistry) and athletically impressive, principal chair of the local orchestra, leaders of this or that student society, call the Mona Lisa *La Joconde* and be completely capable of volunteering in umpteen different ways (most naturally including the classic candy striper). They are the kind of people that, idiomatically, "make you sick." What's worse, many are already budding ophthalmologists and pediatric neurosurgeons the day they walk in the door.



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Hence more new places will be formed, and the competition to fill them will be more severe ... — Charles Darwin, *On the Origin of Species by Natural Selection,*[2] ch. 4

My colleagues are competitive to a point that would put any law student to shame. Heaven forbid your marks be posted in alphabetical order. Don't let anyone know about your plastic surg elective. "Yes, doctor, that's so important for our culture and heritage." Gimme a break. Yet, thank heavens, they are overwhelmingly kind and gifted communicators, dedicated to the task and its implications, and willing to go above and beyond to understand the human condition in need. Our communities are proud of these individuals, and we certainly need more of them.

Presenting such a package deal, this group is catapulted into the chaos and conundrum of an overwhelming lifelong education, but a degree in just three or four years. Medicine, unlike in pre-med (whatever that is, exactly) cannot mean knowing or doing everything. "What is on the exam?" and "Do we need to know this for exam purposes?" are the "Any questions?" responses that drive my professors crazy.

What do you honestly expect to hear?

"Well, no, just ignore the pancreas."

Similarly, success is not scoring 100s on exams, although doing so may attract largesse from Pharma, Inc. More often, it is being there, cracking a good joke when drugs are of no benefit, and paying attention to the people and the world around you — those skills that are neither pass nor fail, but only honours. Adapting, diversifying and responding appropriately, much like the Galapagos tortoise that crawled away when the dinosaurs collapsed due to the burden of their own weight.

"I'd like to show you some very interesting conditioning for Alpha-Plus Intellectuals. We have a big batch of them on Rack 5." — *Brave New World,* p. 25

In students' defence, the volume of information exploding in every direction is incredible. To be today's da Vinci (often considered the last person in history to be versed in all of the science of his time) would require multiple brains. You just can't help but feel the enormity of the task. During a class in community health the other day, when the lecturer asked us to tell him the most memorable thing he had said in the past hour, the only phrase that came to my mind was "last slide."

So there you have it. The fit have come, the fittest of these will get an MD, and the fittest of the fittest will survive residency and hang out their shingle. Then they will succumb to divorce, foster early coronary disease, skip annual physicals and achieve addiction rates higher than those of the average population, but I digress.

Judging from the past, we may safely infer that not one living species will transmit its unaltered likeness to a distant futurity — *On the Origin of Species,* ch. 14

Inter alia, this cohort of usually twenty-somethings represents a group of people that, more often than not, are economically privileged, culturally integrated and come from a family with at least one physician. It is no surprise: medical tuition is at least $10 000 per annum in Canada, with living expenses at approximately $15 000. It is a long haul of a minimum of 8 years of postsecondary education — usually more. Good application résumés cost money: they require a person to volunteer and study instead of cutting lawns, waiting tables and studying last minute, the more likely scenario of today's university students on loans. Most people in medical school will have spent all summer studying for the MCAT while researching for a professor (who will later act as a key application referee) or have written the damned thing from Ohio multiple times at almost $300 a pop. This "admissions test" is for those with time and money, or their parents' money, not for the complete population who want to or arguably should explore their aptitude in medicine.

Climate plays an important role in determining the average numbers of a species, and periodical seasons of extreme cold or drought, I believe to be the most effective of all checks — *Origin of Species,* ch. 3

It should come then as no surprise that we have more medical graduates — *veni*, *vidi*, *vici* — wanting to be subspecialists and fewer hoping to go into rural family medicine than ever before. The economic situation of many rural families today is such that they may be financially unable to support their children in pursuing a profession that usually triples the cost of other colleges. Further, this group is generally not as well informed about the career of a physician. Even so, a growing body of research consistently demonstrates that the people most likely to work in rural family medicine are still students from rural areas.

Nonetheless, the demographics of a medical school class, in spite of nearly universally adopted special admissions policies and considerations toward females, First Nations and others over the decades, represents the upper-middle-class sons and daughters of doctors in the same way the medieval guilds passed down silversmithing, woodworking and other artisanry. Medicine as an exclusively male preserve is celebratedly *démodé*, and yet medical schools have preserved class distinction, all the while equally choosing males and females. Further, although nearly every medical school has a special policy toward First Nations applicants, for a variety of reasons First Nations communities remain overwhelmingly underrepresented in medical schools across the country. Our track record is even worse than that of other professional colleges, including nursing, law and physiotherapy. Unwittingly, medical schools' current levels of engagement with these complex issues are usually too late to be realistic solutions by the time an individual's medical school application rolls along. If such naïvité continues, it is unlikely that significant progress will be made.

If our reason leads us to admire with enthusiasm a multitude of inimitable contrivances in nature, this same reason tells us, though we may err easily on both sides, that some other contrivances are less perfect — *On the Origin of Species,* ch. 6

The true high cost of a high-cost education, the erosive socioeconomic fabric we weave, leads us to a fundamental question. What is the purpose of today's medical school, funded by universities, provincial governments, health districts, the evil drug companies and their wicked stepsister, growing tuition? Will the best résumés make the best doctors, and, given the flux of those with such résumés, do universities have an obligation to provide the graduates who will serve the taxpayers? How "self-regulating" are we, and, more importantly, how proud can we be of this "self-regulation"? Can you ever really win the fight between underservicing and a consitutional freedom of mobility? How much should you pay someone to work in a small town in a free country just because it isn't Toronto? Should we be re-running *Dr. Quinn* instead of *ER*? And, most importantly, do we not have a moral and professional responsibility to, at the end of the day when the scale is balanced, contribute rather than recruit health care providers from areas imbued with overwhelmingly fewer resources and less wealth than our own?

In a dream of a residency match, an accelerated disaster unto itself, the clerkship student attends interviews and does electives at hospitals around the country to the tune of thousands of dollars (e.g., a $290 fee to benefit from the teaching of the U or T for 3–4 weeks — oh please), just to potentially match to medical career X? Here again, the financially well-off prevail.

The book had been published at Detroit by the Society for the Propagation of Fordian Knowledge. — *Brave New World,* p. 171

Ironically, tuition fees and drug company involvement at a university level are often *both* viewed negatively by physicians, most of whom believe they can benefit from the perks provided by drug companies without being objectvively influenced. Others admit to being objectively influenced but not dangerously so, thereby failing to note the conspicuous link between high drug costs, ingratiating representatives and steak dinners. I would argue that a medical education should be seen as much more than an economic investment by our various layers of government, and that it is further highly compromised when tuition is too high and there are obviating and pervasive competing private interests for our success. Sponsored free trinkets and the slippery slope that ensues can be an encroachment on academic freedom as soon as the first day of classes. Some say that unless you are willing to foot the bill yourself you should rather leave and say bon appétit. However, as long as the subject leaves a murky and disagreeable air, a cascade of standards occur that precariously substitute for united audacity and collectively beneficial limits to such relationships. Quick, underrecognized and personally successful evolutions without limits are the blacks moths not eaten when the dust flies.

Administrators, however, may see well-paying medical students and private investment as two sides of the same coin. Where is the money coming from; if not publicly, then from whom? Can companies have a safe-arm's length role to play when, at the end of the day, most medical educators would say our medical schools are underfunded, the inevitable effect of governments pulling out rather than stepping up to the task? If Darwin were kicking today, such a predicament would it be that he wouldn't even be able to afford an e-copy of *Nature*.

But the action of natural selection will probably still oftener depend on some of the inhabitants becoming slowly modified; the mutual relations of many of the other inhabitants being thus disturbed. Nothing can be effected, unless favourable variations occur, and variation itself is apparently always a very slow process — *On the Origin of Species,* ch. 4

It is tiring, admittedly. Can nothing in health care provision be depoliticized, even at an undergraduate level? Must everything have a report and a brouhaha, spiced with "values," "principles" and "a commitment to Canadians"? Will my patients, in need, care if I am white, black or pink, born in Prince Albert or educated in Prince Rupert? Unlikely. Yet, there is a *gestalt* that forms, an image not lost upon today's young medical hopefuls, that the profession as a whole cannot safely ignore.

In short, social accountability in medical education in Canada, not unlike many imperatives in national health care today, is decades behind where it should be. Naturally, you need not be of First Nations ancestry to care deeply about First Nations health issues. Nor must you be below StatsCan's low-income cutoff to dedicate your career to Canada's "poor." But we must recognize, however, a growing trend toward exclusion, professionally and academically, that selects those who are most able to jump hoops and least likely to trip over society's roadblocks. The cumulative willingness to explicitly discuss these issues and their manifold implications to the profession is long overdue. And, although we are all completely capable of speaking on behalf of others, we cannot neglect the fact that each of us inevitably plays a small but important role in the propagation of our kind, because, as Darwin said perhaps best of all:

Though nature grants vast periods of time for the work ... she does not grant an indefinite period. —*On the Origin of Species,* ch. 4

Therein begins our challenge.

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