Chapter One

Born From the Womb of Eugenics

A patient had a fifty-fifty chance of benefiting from visiting a physician as of 1910. Medicine was more like voodoo than science until the 20th Century.

—Abraham Flexner

Flexner and Osler lived in an America where virtually anyone could buy or steal a medical degree. A world in which medical interventions and medications were more likely to kill and maim than to cure, one in which patients' misplaced faith in their doctors often led to tragic repercussions. And they both believed that science was the bedrock upon which medical society could rebuild its army of doctors.

Scientific theories abounded in the first few decades of the twentieth century, many of which claimed to unlock the mysteries of not just nature, but humanity. From social Darwinism to biological causes of poverty to marginalist economic theory, these ideas were quantified by mathematical formulas and statistics to generate a singular truth. To the progressive thinkers of Flexner's era, measurements, diagnoses, and strictly defined immutable remedies paved the path to salvation. This was the era of the IQ test (developed in 1905) and the SAT (invented in 1923), allegedly objective assessments that set out to measure a person's innate intelligence distinct from cultural or social determinants. The notion that a test could unlock the mysteries of the body and mind in ways that were scientific and indisputable embedded itself in the field of medicine after the 1911 Flexner report.

This intellectual philosophy emanated in Germany and was built upon the bricks of prevailing scientific notions, the use of math and numerical constructs to prove a theory, rigid discipline to prevailing norms and to authority figures, and a dismissal of nuance and creativity as being subjective and thus prone to error. At that time, German thought stressed that for every problem there was a single, immutable answer that defined it. Once that answer was discovered, no further investigation was needed.[i] Albert Einstein actually renounced his German citizenship early in his career. Not because of anti-Semitism as many believe, but because of his disdain for the German intellectual tradition. He believed that the one-right-answer philosophy was rigid and uncreative, that it encouraged rote memorization of useless facts, and created a paradigm of education by which students were expected to submit to whatever the all-knowing teacher determined to be correct. "A foolish faith in authority is the worst enemy of truth," he would later say.[ii]

Like Osler, Einstein believed that to get to the truth we need to keep searching, keep studying, keep questioning. Unfortunately, when Flexner imported German educational

and intellectual ideals into the medical realm, he did just the opposite. Medicine became a study of unassailable facts and truths that did not vary from person to person.

Nothing captures the ethos of this era more than eugenics, a movement that grew in parallel with and fed into the same Germanic seeds as Flexnerism. Eugenicists were all about numbers and data: "columns of numbers, pages of numbers, mountains of numbers," as author Daniel Okrent says.[iii] Many spent their lives collecting data about such things as head dimensions, nose width, arm length, and ear size. Multiple-choice assessments were administered to produce "unassailable scientifically derived truths." Armed with this culturally and linguistically rigged data, eugenic scientists set out to prove that certain races were inferior to others, that everything—from strength to intelligence to worth—could be measured, and that we could improve our society through selective breeding. Eugenicists hailed from the most prestigious universities. Some were among the most respected politicians and journalists of the day. Who could doubt them or their sincerity, especially since everything they preached was anchored by the indisputable weight of science?

Robert Yerkes, a Harvard psychologist and advocate of eugenics, was asked to devise an intelligence test to identify potential officers among the soldiers being prepared to be deployed to France in World War I. Yerkes made a statement that applied to Flexnerian science as much as to eugenics when he stated: "Theoretically man is just as measurable as a bar of steel." His multiple-choice test—based on information that would clearly favor established Americans over newly immigrated Americans—revealed that about 50 percent of all army recruits were "morons," most of whom came from Jewish and southern European blood lines. To Yerkes and his eugenic colleagues, such scientific proof was beyond challengeable.

Others in the eugenics movement made statements echoing the mantra of contemporaneous policy makers. Future president Calvin Coolidge proclaimed that "biologic science" must shape the country's immigration policy. Charles Davenport, perhaps the most academic and well-respected of the eugenicists, believed that prostitutes possessed measurable genetic and biological abnormalities that led them to a life on the streets. Never mind complex socio-economic and cultural factors. Humans acted as they did because of biology, and thus measurements and data could reveal who was most likely to become a prostitute.

Harry Laughlin, another proponent of eugenics, "could assemble a chart to demonstrate any point he wished or a graph to make it seem scientific authoritative." It was his scientific work that was cited in the near unanimous 1927 Supreme Court case of Buck vs. Bell, a case that allowed states to sterilize individuals declared "defective" and that led to as

many as 70,000 forced sterilizations.[iv] Like Flexner, Laughlin was a failed educator before becoming a respected scientific leader. And like Flexner, he worked for the Carnegie Foundation. Laughlin himself believed that about 10 percent of the population fit into the "defective" category. His position, much like Flexnerian physicians of his era and of ours, derived not from his opinion, but from the bedrock of science.

The eugenics mantra is the very heart and soul of Flexnerian science, even today. It is striking to note that William Welch, the Hopkins founder who was instrumental in inspiring and implementing the Flexner Report, and who was an avowed enemy of William Osler and all he stood for, was a devoted eugenicist.[v] He, like many founders of our current health care structure and ethos, participated in prominent Eugenic groups as enthusiastically as he imprinted a Eugenic-style health care system upon our national soil.

Like Eugenics, the Flexner system advocates achieving human improvement by measuring, labeling, and fixing numerical surrogates of health. Everything that plagues a person is measurable. Since it is measurable, it is fixable. The adherence by eugenicists to science as being the singular, irrefutable bridge to progress; their dehumanization of people as a collection of numbers; all of this thinking was incorporated into the reforms that Flexner and his cronies sought to inculcate into medical society. The only difference being that while the eugenic movement was thoroughly debunked and reversed, Flexnerian medicine is thriving, in this country and beyond.

Vinay Prasad and Adam Cifu in their book *Ending Medical Reversals* cite an editorial by Dr. Arthur Stutsky called "The Seduction of Physiology." Medical students, under the Flexnerian system, are immersed in basic science from their undergraduate years through medical school. They are taught, much like the eugenicists of Flexner's day, that science is immutable and universally applicable and that understanding basic science opens the door to understanding every living person by breaking that person down into measurable and fixable numbers, what Stutsky refers to as physiology. Says Prasad: "Slutsky understood that doctors like interventions that cause improvements in vital measures like blood pressure and oxygenation. We know these numbers are important, are objective, and correspond to improvements in physiology that we understand. It is reasonable to assume that if we can improve these measures… we can improve survival. Therein lies the false seduction of physiology. Many times, we have found that interventions that improve these measures do nothing to improve the survival of the patient. Improving physiological measures is comforting, but it does not always affect outcomes."[vi]

Flexnerian students—most of whom are trained in hard science during their undergraduate years—sit in the classroom during those first years of medical school memorizing scientific "facts" and only venture into the patient realm once their mastery of science is deemed to

be adequate. They are tested by standardized multiple-choice exams where there is one right answer. Patients—their wants, needs, particular circumstances, complex and intertwined bodies—are largely irrelevant to this calculus. Why spend time with patients when everything derives from measurements?

The mantra of Flexner is simple. There are certain absolute truths about human physiology, they do not vary from person to person or from one era to the next, and once they are discovered to be abnormal, they can be labeled as diseases and fixed. Osler's veil of uncertainty and nuance that he draped over health care had no role in this scientific epiphany. The mantra is:

Test, then diagnose if the numbers are out of range, and then fix.

It doesn't get easier than that.

As a resident at the University of Virginia, I was lucky enough to meet several doctors who bucked the number and diagnosis certitude of Flexnerian scientists, something rare in my career. As young doctors we are taught by Flexnerians who feed us unalterable facts and protocols that we are expected to swallow unquestioningly and to regurgitate back in exams and on rounds. So, to me, these Oslerian doctors saved my medical life.

I remember how one of my physician-teachers in residency challenged the primacy of testing in medical diagnosis. A young woman had come in with some mild shortness of breath. She was very anxious due to multiple life changes, something we only learned later after Dr. B talked with her during rounds; we had never thought to delve so deeply into her life since we were taught to focus on her medical problems and tests. In the emergency room they ran a test called a VQ scan, which determines if a person has a clot in their lung called a pulmonary embolism (PE), one of the causes of shortness of breath. Hers came back positive, so we admitted her with a PE and put her on strong blood thinners.

"Do you really think that she has a PE?" Dr. B asked us at rounds. "She had no risk factors, no swelling of her legs, no symptoms, and she is very anxious. This looks more like a panic attack."

"But the test was positive," one of the residents said.

"How accurate is the test?" Dr. B asked.

Everyone shrugged. We just assumed that all tests were accurate enough.

"Let's say the test is right 95 percent of the time, which is pretty good, right?" he said. Then he started drawing on the board. He came up with a calculation that changed my life. He showed that even if a test is very accurate, that a positive result is very unreliable when a

person does not have a high clinical likelihood of having the disease for which the test is looking. In other words, when a doctor who actually speaks with and examines her patient determines that it is not likely that patient is suffering from a certain condition, then a test for that condition becomes increasingly inaccurate.

“Once you have a sense that your patient does not have a clot to her lungs, you shouldn’t do the test, because any test is likely to be a false positive, even if that test is accurate for the average person. In this case,” he said, after making the calculations. “Even with a positive test, there is about a 10 percent chance she has a PE. Doing tests on people not likely to have the disease is considered bad medicine. Now all of you have given this poor young woman a diagnosis that will commit her to at least six months of dangerous blood thinners and will forever color her medical records, likely making it harder for her to get health insurance, perhaps even a job, for the rest of her life.”

Dr. B’s well-argued scientific wisdom influenced my thinking for the rest of my career. I still converse with him today. He was a rare bird among those who taught us. Even more rare was Dr. H, one of the few “real doctors” who taught me.

Dr. H was a burly, vivacious man with a deep Southern drawl who hailed from the Virginia hinterlands in a town called Grundy, where he had been a general practitioner, treating patients from birth to death, and becoming an intimate friend and healer to all those lucky enough to be under his care. Later in his life he became certified in Hematology, the study of blood cells, and gained a faculty position at University of Virginia. But Dr. H was not willing to follow the standard script, even after entering academics and being handed the Flexnerian Bible. He delved into his patients’ lives, provided unorthodox treatments (or got them off their more orthodox treatments), and helped more people (many of whom worshiped him) than any of the more standard Flexnerians who flooded academia.

As a first-year resident on the neurology service, I helped care for a nice man named WG, a high school principal in West Virginia. “You should come out and practice in our town when you’re done,” he and his wife told me. “There’s not a single traffic light in the whole county, and everyone loves their doctor.” It certainly sounded appealing.

Mr. G had been transported to UVA due to rapid muscular deterioration whose cause no one could identify. Now he would be put in the hands of the best and brightest. Mr. G’s new doctors repeated all the tests that had already been completed, skewering through numbers and pictures in search of an answer. Every specialist had a theory, but each refused to commit to anything until the tests and labs showed them what was going on. There was not a test this man did not have. Some were conducted multiple times. All along, he continued to deteriorate.

“We have faith,” his wife told me.

His doctors did not. As they scratched their heads and ran more and more tests, Mr. G moved to the Intensive Care Unit on a breathing machine. His lungs stopped functioning. I remember one day his neurologist wrote an order in the chart describing how he wanted the autopsy done on his brain stem when the patient died, which the neurologist presumed would be within a few days.

Enter Dr. H.

I don’t remember who called Dr. H. It may have been WG’s primary care physician, who later told me, “Yea, when I can’t figure out what’s going on sometimes I call Dr. H, because he has an instinct that no one else seems to have.” I remember him coming in, scouring the chart, spending a great deal of time with Mr. G’s wife, and shaking his head.

He called the team together. “All these tests don’t tell us shit,” he proclaimed. “This guy has got some kind of inflammation tearing apart his body and we got to stop it now or he’s not going to walk out.”

The head resident, who was a snarky know-it-all, pushed back with a smug smile. “I don’t think so,” she told Dr. H. “We ran tests for inflammation, and that’s not what’s going on.”

“To hell with the damned tests,” he yelled back at her. “I don’t give a shit about tests. I know what’s going on. And we got to load this man up with steroids and do it now.”

The resident laughed. “I don’t think so,” she said to the doctor, who she regarded as a hick who knew nothing about modern medicine. “Steroids will only make things worse if he has an infection. Too many side effects. And we have no diagnosis or indication for their use.”

“I don’t give a crap,” Dr. H said. “Your antibiotics didn’t help a damned thing. So, there ain’t no infection. Let me tell you something I learned in my medical life, sometimes the hard way. You don’t ever let anyone die without first giving them a shit load of steroids. That’s what we’re going to do.”

Ms. G acceded to Dr. H’s plan to give huge doses of intravenous steroids, and we started them that day. The resident was upset. The neurologist was irate, believing that the steroids would sully the autopsy results. But Mrs. G had a great deal of faith in Dr. H; when she talked about him, she had tears in her eyes. He had touched her.

There was no need for an autopsy.

Three days later Mr. G. was pulled off the breathing machine. A week later he was up and walking. Two weeks later he left the hospital. He and Mrs. G gave me a big hug, thanking me profusely, even though, at least in my eyes, I did nothing. It was all Dr. H. It was his ability to

rely on intuition and experience, to not be swayed by copious tests that told him nothing, or a need to label his patient with a precise diagnosis before we could treat him. No one gave him credit, not the resident, not the neurologist, not the other specialist doctors. But I knew what he had done was amazing. So did Mr. and Mrs. G.

The happy couple came back to visit the hospital a year later, bringing gifts to the doctors and nurses. They went to dinner with Dr. H, and once again implored me to come out to their county. “We still have no stoplights,” Mrs. G said.

Months later, passing him in the hall, I asked Dr. H what disease he believed to be responsible for Mr. G’s decline.

“Hell if I know,” he laughed. “And I don’t give a crap. All I care about is that he is back in that town teaching those kids a little bit of discipline. Kids today need a man like that in their lives.”

Science to Dr. H was not staid facts, not measuring and fixing, not labeling people with diseases and conditions. It was, rather, a very human experience, it was knowledge mixed with humanism and humility. It encapsulated everything that William Osler preached.

As journalist Meghan O’Rourke reminds us in her book *The Invisible Kingdom*, Flexnerian medicine not only injures the well by ascribing to them numerical illness and assaulting them with fear, cost, and an arsenal of often feckless and injurious medical interventions, but too it injures the sick by denying their illness in the wake of “normal” numbers.[vii] If a medically ill person does not fit into the norm of Flexner’s discrete numerical abnormalities and diagnoses, if her aliments cannot be explained through the lens of rigidly defined science as was the case with Mr. G, than the myopic doctors trained in their Flexnerian haze often ascribe that person’s illness to malingering, mental disease, or simply the unknown, often failing to help them as they know no cure but that of number-fixing.

Today I saw a patient who could have used Dr. B’s understanding and Dr. H’s insight. Mr. C was a big, active guy in his late seventies who regularly saw a cardiologist to monitor his pacemaker. He had undergone a lot of stress tests and echocardiograms at the cardiologist’s request, tests that Medicare paid for and that Mr. C believed to be necessary. One day Mr. C started feeling dizzy, kind of like vertigo. We discussed possible causes, including medicines, his very low blood pressure, and some life stressors. The next day he stood up and fainted. His wife called 911, and Mr. C was whisked to the hospital.

What struck the hospital doctors were two abnormal findings having nothing to do with his dizziness. First, his blood pressure was too high. Whose wouldn’t be under those

circumstances? Still, the doctors were worried and changed around his pressure medicines. Second, one of his blood tests—a test that tells you if you are having a heart attack called troponin—was mildly abnormal.[viii] Could he be having a heart attack, they asked? He had no symptoms of a heart attack. His EKG was normal. He was just dizzy, a fact that the doctors no longer even addressed. But the doctors couldn't just dismiss a blood test like that. In reality, that test is often abnormal in patients who are elderly and have some kidney disease, as Mr. C did. Still, the doctors pressed the panic button just because of that one irrelevant blood test that should never have been ordered. They called in a cardiologist, and Mr. C's rocky ride through hell began.

The cardiologist performed a catheterization on his heart, a test with a 1 percent risk of causing a stroke and a higher risk of putting someone like Mr. C into kidney failure.[ix] Luckily, none of that happened. He had plaque all over his blood vessels, something we had already ascertained based on his multiple risk factors. That was why he was on a statin (a lipid lowering drug that reduces inflammation of heart blood vessels), the only proven treatment to prevent heart attacks in people with plaque. They also found that one of his arteries had an 80 percent blockage. They threw him in an ambulance and sent him to a nearby university hospital where he could have a stent placed. *Find a blockage, fix a blockage*. Flexner would be proud!

No one considered what had brought Mr. C to the hospital or even if their "fix" was medically helpful. But they put in a stent, bumped up his cholesterol medicine, added new blood thinner medicines, and increased his blood pressure pills. When he saw me after discharge, he was still dizzy; that had never been addressed. Predictably, he felt worse on all those medicines, which I promptly reduced. Now he was stuck with a piece of metal wedged into his heart and was given a frightening diagnosis that he presumed would kill him. No one discussed weight loss or other lifestyle changes. No one ever does in the Flexnerian universe.

When doctors are trained to use scientific measurements as proxies for a person's health, when those numbers take on a life of their own, when fixing those numbers to preordained levels is the only goal of a doctor, then we have the dysfunctional health care system with which we all contend today. Mr. C. was worse off than he had been before. And no one took care of the medical problem that sent him to the hospital or the medical risk factors that were most potentially deleterious to him.

Ironically, by focusing on number-fixing, we have returned to the non-scientific health care system that both Flexner and Osler disparaged. We are training doctors taught and encouraged to disregard scientific subjectivity in lieu of numerical absolutism and emphasizing a form of simplistic science that is not relevant to the complex human beings

for whom we care. It's comforting to think that if we find and fix all the errant values in our body, if we test ourselves before we are sick and identify problems early, then we can control our own medical destiny. We as humans do not like uncertainty. We want to think we can alter our destiny without working so hard at it. Flexnerian medicine, couched in a faux science and validated by white-garbed and well-meaning scientist doctors, gives us the illusion of certainty, and the illusion of control. But it is not science. It's medical deception. It's snake oil.

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[i] Thomas Neville Bonner, *Iconoclast: Abraham Flexner and a life in learning*. Baltimore, (Johns Hopkins University Press, 2002), p. 88; Bliss, p. 379

[ii] 1. Walter Isaacson, *Einstein: His Life and Universe* (New York: Simon & Schuster Paperbacks, 2017).

[iii] For information about Eugenics used in this book, see
Okrent, Daniel. *The guarded gate: Bigotry, eugenics, and the law that kept two generations of Jews, Italians, and other European immigrants out of America*. Scribner, 2020.
Ordover, Nancy. *American eugenics race, Queer Anatomy, and the Science of Nationalism*. Minneapolis: University of Minnesota Press, 2003.

[iv] Cohen, Adam. *Imbeciles: The Supreme Court, American eugenics, and the sterilization of Carrie Buck*. New York, NY: Penguin Books, 2017.

[v] Alan Mason Chesney Medical Archives, accessed October 17, 2023. Box 63, Folder 11, Nov 1929, lists William Welch as primary speaker at Mental Hygiene 20th anniversary, and was quoted as saying it was "a really historic occasion." Box64, folder 8, Feb 11, 1933. Letter from Welch (no addressee) where he signs it as Honorary President of the American Foundation for Mental hygiene and writes: "This year marks the 25th Anniversary of the founding of the mental hygiene movement, with which I have had the privilege of being identified in an active way since its very inception." Box 61, Folder 20/IIB, April 20, 1923, letter from Eugenics Committee of the United States to Dr Welch asking him to review the committee's annual report. Second letter Oct 10, 1923 asking Dr. Welch on which committees he would like to serve. Box 11, Folder 11, March 22, 1920, letter from Charles Davenport, chairman of the Eugenics Committee, to Dr. Welch stating that Dr. Welch has been elected to the general committee; Alan Mason Chesney Medical Archives, accessed October 17, 2023. Box 66, Folder 13. October 23,

[vi] 1. Vinayak K. Prasad and Adam S. Cifu, *Ending Medical Reversal: Improving Outcomes, Saving Lives* (Baltimore: Johns Hopkins University Press, 2019).

[vii] 1. MEGHAN O'ROURKE, *Invisible Kingdom: Reimagining Chronic Illness* (NEW YORK: RIVERHEAD BOOKS, 2023).

[viii] For a good discussion of troponins, see Jeanne Lenzer, *The Danger within US: America's Untested, Unregulated Medical Device Industry and One Man's Battle to Survive It* (New York: Little, Brown and Company, 2017), 244-58.

[ix] Abdel-Latif A, Misumida N, et al. Ischemic Stroke After Percutaneous Coronary Intervention. *J Am Coll Cardiol Intv.* 2019 Aug, 12 (15) 1507 1509.**https://doi.org/10.1016/j.jcin.2019.05.013**