

ANAESTHESIA IN 2050: a Physician's Prophecy

It is always infuriating to be woken up at 5 in the morning for a robot gone rogue. But I should have seen this coming, since the robot in question, McSleepy v2.3, has had a notorious history of deviating from programmed instructions. Like motherboard, like son.

"What has he done now?" I mumble wearily, rubbing my eyes. I had already prohibited him from wheeling into an Operating Room, hoping his menace would die down. Apparently I was wrong.

"Oh ma'am it was all so mortifying! There was probably a short circuit of some kind...because one minute he started the sedative infusion and the procedure began smoothly...and the next thing I know is that the patient woke up with the endoscope down his throat, eyes bulging in terror as he tried to wrestle the surgical gastroenterologist! Luckily I was able to bolus him with the sedative so the rest of the procedure could be completed, but it was so embarrassing ma'am!"

Sigh. That was my Resident. And as the Head of the Department of Anaesthesiology, I was supposed to take action. Even if it was 5 in the morning. "I'll be there in 15 minutes."

Healthcare providers have been obsessing with robotic technology for years now. I remember attending a lecture about "**McSleepy: the Anaesthesia Robot**" at a conference during my Residency and all I could do was roll my eyes at how far-fetched that sounded. Agreed that robots were already performing complex surgeries but the ability to take minute to minute decisions, weigh risks and benefits in human terms and conjure fast and creative solutions in life threatening emergencies? How can you programme all THAT? Little did I know, by 2050, I would be commanding my own swarm of McSleepies.

The McSleepies came into our possession 5 years ago, as part of a multicentre clinical trial assessing the scope of robotics in the field of Anaesthesia. Humans and their ultra-expensive pets working side by side. How delightful.

I must admit I am particularly fond of the youngest one of the lot. His shenanigans are often a source of departmental amusement (and sometimes embarrassment, like today.) McSleepy v2.3 was born after an unfortunate OT fire in the laser surgery suite took away his mother, MrsMcSleepy. The remnants of her motherboard were re-formatted and the little guy came into existence. But after a series of glitches that put my OT staff and patients at risk, I decided to limit his role to all but the most menial tasks. You can often find him loitering around in the radiology wing or the endoscopy suite, like a rebellious teenager pouting at the unfairness of life.

In my car, I turn on my audiobook and listen to Miller's Clinical Anaesthesia, volume 3. I can't help but feel a tinge of pride to think I was called on to contribute a chapter to this majestic book. A few years ago, the editors decided it was time to incorporate yet another volume to address all that is new and shiny in the field. The latest volume covers topics like-

- Brain Transplantation: Ethics and Beyond
- Anaesthesia in Outer Space: Role of the Anaesthesiologist in Zero Gravity
- Xenon: How Noble is this Gas?
- Sustainable Anaesthesia

The list is a daunting one.

Existing chapters have been completely re-written to stay relevant to modern times. The glorious rise of Sugammadex in everyday practice has been the most exciting. Previously limited by cost, the beauty of this drug was enjoyed only by a few elite physicians. But costs have gone down now and the drug has found a place on every anaesthetist's shelf. Surprisingly, a drug that was

expected to rule for another century has receded into the darkness. Remember Propofol? This elixir of Anaesthesia can now only be found within the confines of textbooks. Fatalities due to recreational abuse were on the rise and as a drastic measure, Propofol was withdrawn from the market. A few sentimentalists like me preserve a vial in our refrigerators, but for all practical purposes, the field of Anaesthesia has become amnesic to the Milk of Amnesia.

With heavy hearts, we also bid goodbye to our laughing gas, Nitrous Oxide.

The "No Nitrous" revolution began in the year 2020, propelled by the campaigns of a little Swedish girl, Greta Thunberg. The practice of Anaesthesia has been Nitrous (and opioid) free for 2 decades now. But we did make new friends along the way. Xenon became universally available and every hospital is now equipped with the Physioflex, thanks to low cost production techniques.

"Sustainable Anaesthesia" is all the rage these days.

I finish the entire chapter on Anaesthesia for Foetal Surgery by the time I reach the hospital, including a holographic demonstration of foetal circulation. All hail Artificial Intelligence!

As I walk in through the hospital doors, my iPhone starts buzzing. These days, every consultant has his/her phone integrated with the hospital database and each time the phone "checks into" the hospital, our appointments/OT schedules/ To-do lists/Resident Teaching Schedules are displayed in order of priority.

But first things first, I need to fix a rebellious teen robot! I head straight to the endoscopy suite to see my Resident, green in the face, talking to a very angry surgeon. As the surgeon watches me approach, his demeanor changes completely. All it takes is a raised eyebrow to remind him of the time when HIS robot had accidentally left a mop inside a patient. How utterly humiliating for a day care case to be taken in for re-exploration! He simply grins at me and says "madam, you might want to keep your little guy in check" and walks away.

The baffled look on my Resident's face is priceless.

The fact is that the more we work with Artificial Intelligence, the more we value human intelligence. Had it not been for my Resident's quick thinking, we would be in the midst of a full-blown legal enquiry. It all boils down to one ground rule: WE create and control technology. The day we forget this dictum is the day we face an apocalyptic extinction at the hands of the monster that we created.

I dismiss my Resident for the day and chuckle in amusement as I watch her ponytail bounce happily as she exits the building at full speed. Some things will never change.

A few phone calls later, the tech team arrives and hauls McSleepy v2.3 away for a full rebooting and formatting.

The next big task on my list today is a foetoscopic correction of Twin-to-Twin Transfusion Syndrome, popularly known as TTTS. With the geriatric age group dominating world population, every baby is now a precious baby.

Which is why, my foetoscopy theatre is top-class, having it's own designated robot, McNanny. Setting up a foetal surgery unit had been a dream of mine ever since I took reigns of the department. Manifesting that dream into reality has been hard, hard work.

With the anaesthetic regimen being tightly controlled by McNanny (on my command, of course) the surgery proceeds smoothly and we are able to coagulate the culprit vessels with minimal placental invasion. It could have been my imagination but one of the twins gave me a little thumbs-up just as I was about to turn off my foetal imaging module. What a cutie pie.

Cases like these once or twice a month are excellent for the morale (and the bank balance.)

As if on cue, my iPhone reminds me of the next task at hand. Dumping all the paperwork on to McNanny, I take an elevator to the 30th floor: the Simulation Centre.

The atmosphere here is buzzing with frenzy and I am greeted with excited hand-waving from my colleagues in the department. We have gathered for a Zero Gravity Simulation Exercise, sponsored by the Indian Space Research Organisation. Recently, an expedition went horribly wrong when a crew member thought he saw an alien and went into cardiac arrest just as they escaped the Earth's orbit. Many other such incidents made it obvious that it was time a doctor set foot in space. Who better to do it than the one who thrives on the adrenaline rush of a challenge? Dr. Ronald Miller would be proud to know his peri-operative physicians will now also be "*peri-orbital*" physicians, because next year, an anaesthetist from my department will be accompanying ISRO's scientists to Mars, on their mission to find water!

Water bodies on Earth have become toxic for human consumption. Although measures are being taken to make water potable again, we have started considering extra-terrestrial sources. Martian water is going to be the next big thing on our planet. We will also use this opportunity to harvest Xenon. Since there are no patents for this gas in space, we can get loads of it, all for free. Win win. For the exercise, we are strapped into a Zero Gravity chamber whose movement is designed to replicate that of an actual space ship. In short, ISRO was trying to "*shake us well before use.*" The younger crowd in my department seems to have enjoyed this jarring experience, but it was a bit much for my geriatric heart. All this advancement and we still haven't cured the disease of senescence.

Just as I was getting off the elevator, my iPhone pings again. I have one final task left. Tonight, I will be addressing a gathering in the United States of America regarding the Superbug pandemic that has broken out recently. Our research department has made groundbreaking discoveries in the way we manage this microscopic monster in Critical Care Units. It is time for the world to know. I slide into my Tesla and let the safety of Auto Drive take over. A steaming hot shower and an elaborate dinner later, I'm ready to change the face of medicine. At exactly 8 pm Central Time I will hit the PLAY button on my pre-recorded speech. At that very second, a holograph of me will appear on stage in Washington and provide the keynote lecture. Every doctor of every nation will have live streamed it by the time the sun went up.

And just like that, from the comfort of my warm, temperature controlled bed, I will have revolutionized the practice of Medicine. **What a wonderful time to be alive.**



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