

PERSPECTIVES
VIEWPOINTS

Am I That Guy?

Joseph Bernstein, MD

Technology has been transforming health care since long before I started medical school 40 years ago. And while I was never exactly an early adopter myself, I was often early-adjacent. That proximity has given me a perch from which to reflect on medicine's current intersection with artificial intelligence (AI).

My initial encounter with emerging technology in medicine came during my surgery clerkship. During my stint with Dr. S, the Chief of Surgery, I was given a box and told to accompany him everywhere, box in hand. Wherever Dr. S went, the box went—and with it, me, the keeper of the box.

This box was Dr. S's mobile telephone. A “bag phone,” they called it, but the name belies its size. In my hazy recollection, it weighed more than a bowling ball and was bigger than a briefcase. I was quietly thrilled going everywhere with Dr. S. I fancied myself his naval officer, carrying the “football” with the nuclear codes.

I was also awed by the bag phone itself. Back in 1988, if someone wanted to reach you, they would set off your pager, and then you would hunt for a payphone (remember those?), hoping you had the right combination of coins (remember those?) to answer the summons.

The bag phone felt futuristic then, because it was. In the 1980s, everyone knew wireless communication was possible in theory (after all, Secret Agent Maxwell Smart had a shoe phone) but not imminent in practice. Thus, to hold a coinless, portable telephone was to grasp the future in hand.

Decades later, I smile at the absurdities of this experience. The first element of farce was my self-importance. Sure, I accompanied Dr. S to the inner sanctums of New York Hospital, but I was no naval officer carrying nuclear codes. I was his telephone pack mule, a *noch schlepper*—it was not about me. The second element of preposterousness was the box itself: a glorified walkie-talkie, outweighing my textbooks.

Thinking about Dr. S and my current efforts to make practical use of AI, I am reminded of that old line: “Don't laugh—if you change the name, the story becomes about you.” So, I wonder: Did I become that guy? To be sure, I was never appointed chief of anything. Yet I too find myself, all of these

years later, tinkering with a clunky vision of the future. My plaything is podcasts, AI-generated podcasts.

To explain how I ended up tinkering with podcasts, I must rewind to 2006, when my friends Steve and Christian joined me to create www.Orthopaedia.com, an online student textbook of

orthopaedics. It was slow going for the first 15 years. Then, thanks to the worldwide “sabbatical” bestowed by the COVID-19 pandemic (and the assistance of 300 volunteer writers and reviewers), we finally finished it.

As pleased as we were to complete the task, we also had a Rip Van Winkle awakening. Between *Orthopaedia's* conception (2006) and release (2022), the world of information exchange had flipped. When we started *Orthopaedia*, about 3% of

mobile users had smartphones (mostly BlackBerrys, mostly for business). The Apple iPhone arrived in 2007. By 2022, >85% of adults carried smartphones, with each being used 85% of all waking hours, or so it seemed. Our textbook needed some “modern accoutrements.”

We started a Substack. We developed a flashcard application (app). We even filmed a TikTok video—shelved, for the moment, respecting my kids' complete cringe critique. But to truly project relevance, our TikTok consultants assured us that a podcast was needed. One hitch: we did not have a budget for professional hosts, and none of us was fit for the microphone. I'm a schlepper from New York, and some people say New Yorkers have accents. Steve and Christian are from Canada, and Canadians definitely have accents. And as everyone knows, the sounds of words can matter as much as their content.

Then friends alerted me to the magic of NotebookLM (Google). Feed it some source material like an *Orthopaedia* chapter, give it a few instructions, and 5 minutes later, you receive an AI-generated podcast, replete with professional production values and just enough “ums” to sound conversational and realistic. In no time, we produced episodes covering 10 *Orthopaedia* chapters (<https://rss.com/podcasts/orthopaedia/>). As you will hear, each episode is filled with cogent, unscripted discussion—almost as if we had recorded it ourselves. But as I say, “almost.”

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In particular, the AI had its own ideas about pronunciation, and every now and then its choices were glaringly wrong. Take, for example, the word “menisci.” We all know that it is pronounced “meh-NIH-sky.” My AI, apparently cosmopolitan but clueless, kept insisting on an Italianate “meh-NISH-ee.”

I tried phonetic spelling (which worked when I gave the tip of the ulna an Irish surname, “O’Leckranon”). I tried whining, cajoling, and threatening. Nothing worked: the AI kept saying “Meh-NISH-ee,” even when the word was not technically needed—committed to the bit.

This, perhaps, was my football-phone moment. In 1988, Dr. S boasted the most advanced communication device, but needed support staff to make it work. Today, I wrangle with an AI podcast generator that is pedagogically crisp but phonetically challenged.

But maybe this was not much of a football-phone moment after all. That analogy only holds if the narrative arcs are parallel, and my story may end differently. The technology that supplanted the bag phone is impressive, but it represents incremental improvement. Yes, today’s smartphones weigh 95% less, and their chips run 10,000,000 times faster, but their core function, supporting human-to-human communication, has changed only in degree, not in kind. On the other hand, what comes next for AI—and for those of us who fancy ourselves creators, curators, and communicators of knowledge—may be totally transformative.

Tech revolutions notwithstanding, there is still good reason to be bullish on textbooks. For one thing, the Lindy effect applies: the longer something has lasted, the longer it is likely to persist. Textbooks, in one form or another, have been around for a long time. They predated Gutenberg, outlasted the telegraph, and found their niche in the internet era. And there is good reason to think they will survive AI too: even if OpenAI’s popular ChatGPT program can generate text, it must first be pre-trained on human knowledge before it can transform anything (that’s “GPT”: generative pre-trained transformer.)

The importance of a reliable source is part of the *Orthopaedia* origin story. When we set out to create *Orthopaedia*, our main concern was access. In orthopaedics, where courses are typically short and students are understandably reluctant to buy books, any price above “free” would limit reach. So, we committed to a Creative Commons license, like Wikipedia, to remove all barriers to access. But we also knew that sites like Wikipedia, while full of free information, often lacked the reliability that students need. So *Orthopaedia*, unlike Wikipedia, had to be not only free from cost, but also free from open edits by cranks concocting kooky cures. That is, *Orthopaedia* had to be peer-reviewed and sealed—it was built to last.

Although we never expected students to read every word of *Orthopaedia*, we did expect it to endure as a reference. Sure, even in 2006, readers relied on search engines and aggregators, but those tools needed something to search for or aggregate. In other words, while we suspected that our biggest audience might someday be machines, we figured the worst they would do was muddy our usage stats. They posed no threat to our revenue stream because we had none. So, we felt secure.

Yet maybe, on second thought, our sense of security was unfounded. AI may be far more disruptive than we assumed. The Lindy effect suggests only longevity, not immortality, after all. Perhaps AI will birth an altogether new model of knowledge creation, curation, and communication. At some point of superintelligence, a system may no longer need pre-training on source material—it may be able to deduce deep truths on its own. With that, AI might nudge out not only textbook writers, but also scientists who create knowledge and physicians who apply it. If superintelligence is reached, all copies of *Orthopaedia*, indeed all textbooks, will be superfluous.

Consider how we once defined the kilogram by “Le Grand K,” a lump of platinum-iridium alloy in a French vault. Today, the kilogram is defined by an equation using Planck’s constant—the kilogram is no longer measured but deduced. And when everything is deduced, *Orthopaedia*’s best hope would be to join Le Grand K in the pantheon of once-useful artifacts.

So, am I that guy? Maybe. Like Dr. S, I am using a prototype that will look ridiculous in retrospect. But unlike Dr. S, I may be replaced—rendered as useless as bag phones are now. One day, AI might produce its own science. It might even conspire with patients and cut us middlemen out entirely.

Do I hope to be that guy? Maybe. I would hate to think I am worthy of obsolescence. But if AI expands knowledge, improves access, and promotes human flourishing, I should be proud to accept my place alongside the bloodletters and the lobotomists in the graveyards of medical history. ■

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