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The Lives of Lewis Thomas

What researching a biography of the celebrated mid-century physician-humanist reveals about technological capability and human frailty.

I. Memory

Back in 1982, as I was preparing to enter Cornell University's medical school, I was thrilled to learn that the physician-humanist and writer Lewis Thomas (1913–1993) would give us a lecture during our first year. I had read *The Lives of a Cell* during high school and remembered staring at his photo on the book's dustcover. Clad in a lab coat, Thomas leaned toward the photographer, peering out behind his tortoiseshell glasses at the future. I imagined he was moving forward. Inspired, I brought my copy of his new memoir, *The Youngest Science*, to the lecture with the intention of getting his autograph.

The early '80s were a confident time, when many people still believed that medicine could cure all ills. With the advent of ever more potent antibiotics and the rise of molecular medicine after World War II, there seemed to be no limit to medicine's mid-century promise. In those days, before the extent of the AIDS epidemic was fully understood—and long before COVID-19—people spoke seriously about the end of infectious disease as a specialty.

Standing at the podium in his white coat, facing the crowd of first-year medical students, Thomas said that if he had his druthers, he would spray the room with the influenza virus. Most of us had not been sick, and to be a doctor, he said, you needed empathy; for that you had to have experienced illness. He reminded us that we had all chosen to come to the school that day. Then, pointing up from the lecture hall toward the hospital, he said that none of the patients chose to be *there*—our future workplace was ultimately a place of sickness.

That lesson helped shape my career as a physician and bioethicist, as well as my sense of the fragility of life and the obligations of care. I thought often of Thomas's warning when the COVID pandemic was at its worst. When it was my turn to lecture Cornell's first-year medical students on Zoom during the pandemic, there was no need to threaten to spray the room with influenza.

But as I started to research a biography of Thomas, I wondered whether my recall of his lecture might have been a false memory. Was it a conflation of recollections? But then the peculiarities of his language and his use of that word, "druthers," crept in. It wasn't something you heard often. And when I interviewed his daughter, the writer Abigail Thomas, in 2023, she used the same word. Druthers.

Further confirmation came in his papers: 160 boxes nested away in Princeton University's Firestone Library. I was in the archives this past spring, three levels down, at a green leather desk under a skylight that turns the reading room into a scholarly greenhouse. There, I found a typed manuscript called "Getting a Grip on the Grippe," which eventually appeared in the January 1982 issue of *Discover* magazine.

An ode to the genetic cleverness of viruses, the essay is written by a secret admirer who mournfully anticipates pathogens' demise at the hand of molecular medicine. Then comes the unexpected and paradoxical pivot—the literary device that makes Thomas's essays so thrilling to read—where he asks, "Do we really want to get rid of the grippe?" Just a half century earlier, before the dawn of antibiotics,

he explains, “children came to understand something about the hazards of living, and about mortality, at first hand, part of growing up. It was an aspect of everyday experience.” Their friends and neighbors might have died of septicemia, meningitis, or lobar pneumonia, and they lived under the specter of infectious diseases akin to how “cancer is feared today.” Insulated from daily encounters with illness and death by antibiotics and modern medicine, he argues, we lost the sense of frailty that built empathy among us as a society and served as glue between doctors and patients.

Thomas worried that a new generation of young doctors had “no idea what it is to be ill.” And then he quips, “it might be a good idea, several times in the academic year, to release an aerosol of grippe virus into the lecture hall during, say, the course in molecular biochemistry.” He suggested that medical students could “volunteer to keep working through the days and nights of the illness, not taking to their beds at all, in order to glimpse what it is like *not* to be cared for, a very handy kind of knowledge for any doctor.” It is the kind of moral message medical students rarely hear nowadays.

Now that my own memories have been confirmed, I’ve had to reckon with the fact that the memory of Thomas’s contributions to medicine and the broader humanities has largely been lost. When I tell doctors my age that I am working on his biography, it is not uncommon for them to tell me that they decided to go to medical school after reading *The Lives of a Cell*. But when I talk to a younger generation, I’m met with blank stares. During my time researching in Princeton’s archives, I also taught a bioethics class with many molecular biology majors. No one in my seminar recognized his name. When I asked where their department was housed, a student answered “Thomas Lab,” and there was a murmur—*Oh, you’re writing a book about that guy.*

As his biographer and as a doctor, I don’t want Thomas to be forgotten. He was not only a writer; he was a leading scientist in the mid-century shift to molecular medicine, and he combined the two with a moral prescience that is worth revisiting. A bridge to the pre-antibiotic era, he was able to embrace the progress he witnessed with both enthusiasm and skepticism. That subtle mix feels jarring when juxtaposed against the heroic myths about medicine’s rise during the twentieth century that are told today. But it is also revealing.

As an experimental biologist, Thomas the scientist was impossible to pigeonhole. Trained as a neurologist, he chaired departments of pediatrics, pathology, and medicine, and he advanced the idea of “immune surveillance” as a defense against cancer in 1959. He was dean at New York University and Yale University medical schools and later served as president and chancellor of

the Memorial Sloan Kettering Cancer Center. For a decade he wrote a regular column in the *New England Journal of Medicine* called “Notes of a Biology Watcher,” which was eventually collected into *The Lives of a Cell* and *The Medusa and the Snail*, both National Book Award winners. When he won the Albert Lasker Public Service Award in 1989, he was celebrated as the “poet laureate of twentieth-century medicine.”

Thomas might appear to be a one-man bridge straddling scientist and novelist C. P. Snow’s two-culture divide, because he was equally comfortable in the sciences and the humanities. But he actually disagreed with Snow’s distinction between the culture of the scientific establishment and that of the humanities. For Thomas, there was just one unified culture. I think it was that stance that made him a singular narrator of the rise of US science in the postwar period. Today that story is often told in hindsight, as if inevitable: a triumphant dotted line from penicillin to the atomic bomb to the polio vaccine to the rise of genomics and mRNA vaccines. But spending time in Thomas’s archives has given me access to his poetic exploration of the murkier parts of that journey: the dread; the moral uncertainty; and the biologist’s need to understand coupled with the doctor’s obligation to heal. Thomas understood intimately that this was not just a tale about how science was advancing—it was also a story about who we were becoming.

II. Poetics

Being a scientist and a poet were vitally intertwined for Thomas, not only for expression, as you might expect, but also for inspiration. “We must rely on our scientists to help us find our way through the near distance, but for the longer stretch of the future we are dependent on the poet,” Thomas wrote in an unpublished essay. Although we think of observation as critical to science, there is much to learn from the poet, who can teach us “to question more closely, and listen more carefully.”

For Thomas, poetry was an ethereal laboratory residing in the imagination. There, he opined, “the skill consists in [the poet’s] capacity to decide quickly which things to retain, which to eject. He becomes an equivalent of a scientist, in the act of examining and sorting the things popping in, finding the marks of remote similarity, points of distant relationship, tiny irregularities that indicate that this one is really the same as that one over there only more important.” Thomas noted that “a poet is, after all, a sort of scientist in which nothing is measurable. He lives with data that cannot be numbered, and his experiment can only be done once. The information on a poem is, by definition, not reproducible. His pilot runs involve a recognition of things that pop into his head.”

And then he used a metaphor to transform the poetic into the physical: “Gauging the fit, [the poet] will miraculously place parts of the universe together in geometric shapes that are as beautiful and balanced as crystal.”



Lewis Thomas. Photograph by Bernard Gotfryd, courtesy the Library of Congress Prints and Photographs Division.

III. A fine war

In unpublished letters the Thomas family graciously shared with me, I have been able to read a more cautious history of science's many leaps. In 1938, for example, Thomas was already worried about the coming war. As an intern just out of medical school, he wrote to his future spouse, Beryl, "There is going to be a fine war and that will be the end of bipeds." It's a curious phrase that puts geopolitics into an evolutionary context. But this particular biological spin on a historical premonition reveals a preoccupation with annihilation that would span his lifetime.

Thomas's concerns continued during World War II, when he ended up with a front-row seat at the dawn of the atomic age. He was deployed in the Pacific as a Navy doctor and tasked with hunting down and studying tropical diseases that could fell the troops. In 1942, the lab of prominent Rockefeller Institute virologist Tom Rivers, where Thomas worked, was inducted en masse into the Navy and rechristened the Naval Medical Research Unit 2 (NAMRU-2). The lab was deployed to the Pacific in 1944, working on Guam and later Okinawa.

During his time in the Navy, Thomas kept a nightly ritual of writing to Beryl, whom he married in 1941. The correspondence, often written under the single electric bulb in the tent he shared with other researchers, was witty, romantic, and literary. When Thomas got mail from Beryl, who lived with their two daughters across the street from New York's Rockefeller University, he would walk to a

nearby clearing, sit on the stump of a felled coconut tree, and read. He was kept company by NAMRU-2 sheep who had also made the voyage to the Pacific. As he passed the small flock, he would whistle Beethoven's Sixth—which the sheep preferred over Brahms, he wrote Beryl, because it was the *Pastoral*.

In one letter Beryl shared a question from their young daughter Abby: "Does God wear a watch?" Thomas replied, "It's a very important question," one "that keeps coming back into my head, the same way it does yours, and stopping all my thoughts dead in their tracks." Abby's query had tapped into Thomas's preoccupation with temporality, a theme which came to play a key role in his emerging cosmology—where biological evolution is bent by future technological innovation.

These ideas would shape his post-war life as a public intellectual and commentator on mid-century medicine, which he fittingly characterized as *The Youngest Science* in his 1983 memoir. Worrying about war and the future of humanity, he suggested *biological adjustment* as a theory for "why people go through all this." Overall, he had faith in our species, if not the individuals who comprise the collective. Time was an *elixir*—and a reason for optimism. He described war and cataclysm as biological adjustment: "the kind of thing that all species have to go through once in a while, every million generations or so, in times of crisis which they have created for themselves, and because they are a species and alive they always work it out one way or another, and if they are [a] dominant species with good nervous systems they usually work it out well in spite of themselves and in ways that they can't possibly have foreseen,

and sometimes it happens overnight.” The idea of biological adjustment helped Thomas contemplate the deeper forces of nature that could be at play in human crises, giving him hope for the future despite his forebodings. “It may take a long time but I have great faith in biology.”

IV. The damned bombs

The atomic bombing of Hiroshima on August 6, 1945, would put Thomas’s optimism to the ultimate test. By then he was stationed on Okinawa investigating an outbreak of Japanese B encephalitis and watching the influx of troops gathering to invade the home islands of Japan.

He was weary of war, the jungle, and jeeps. But on August 7 he wrote, “I think it will be *finished* very soon now. Now I really do think so. The radio just gave the first news about the new bombs and I think now it will be very soon.” And he added, “Even without the damned bombs I think it will be soon.”

Unlike some GIs who saw the bomb as a ticket home, Thomas was more circumspect about the destructive potential of the new weapons than excited about the war’s conclusion: “We are hearing rumors all over the place about that damned bomb—I remember an article in *Harper’s* in 1939 about that stuff, filled with the gloomiest of predictions about what would happen when it got loose—my God what a business—I do wish the war would end right now.”

That *Harper’s* article (actually published in 1940) heralded the potential of atomic energy but also suggested the explosive power of its intentional misuse. The essay made a profound impression on Thomas, so much so that in 1941, he published his poem “Millenium” in the *Atlantic*:

It will be soft, the sound that we shall hear
When we have reached the end of time and light.
A quiet, final noise within the ear
Before we are returned into the night.

A sound for each to recognize and fear
In one enormous moment, as he grieves—
A sound of rustling, dry and very near,
A sudden fluttering of all the leaves.

It will be heard in all the open air
Above the fading rumble of the guns,
And we shall stand uneasily and stare,
The finally forsaken, lonely ones.

From all the distant secret places then
A little breeze will shift across the sky,
When all the earth at last is free of men
And settles, with a vast and easy sigh.

Long before the United States dropped the atomic bombs, Thomas had been using poetry to think about what it meant. He admitted his confusion, perhaps ambivalence, about how the war was coming to an end. Unlike many of his peers, he understood that it also meant the end of an era in human history. Nothing would ever be the same, and he shared this with Beryl: “It’s hard to think about clearly.”

The very week US forces dropped the bomb on Hiroshima, Thomas identified the virus that caused Japanese B encephalitis. But instead of celebrating, he lamented, “The only reaction I can feel is what the hell am I doing working on encephalitis and getting excited along with everybody else about it when a thing like that bomb is loose.”

NAMRU-2’s accomplishments were a taste of the strides medicine would make in the second half of the twentieth century, but they were barely a footnote to the power of the atom. The medicine Thomas and his mates sought to advance was powerless against forces like the weapon that was dropped on Hiroshima. Two days afterward he asked Beryl, “What will cure a bomb sweetie?? What will? I don’t like it.”

Yet, invoking his theory of biological adjustment, he turned more hopeful. “Maybe if it’s all true, it will turn out to be a good thing,” he wrote. “It ought to mean the permanent end of all wars, if we’ve got even a grain of sense left after this one.”

He was torn by his desire to finally go home and wondered if the bombs would provide the means by which that might happen. “I want to come home now. Maybe this will end the war in a few days. Everybody is talking as though it will.” Then, pleading for wisdom or deliverance, it’s hard to tell which, he implored, “God. Come on God, wherever you are. Come on come on wherever you are...” And when he heard another rumor that same day that the Russians had declared war on Japan, he confessed, “God what a hopeful day.”

An avowed secularist, it is the only time in the letters that Thomas invokes a deity. He was struggling with the bomb and perhaps his faith, wondering out loud about his species and the destructive forces that lurk within. These fears haunted him as a young man, and they would follow him decades hence, when he advocated for nuclear disarmament.

V. The quiet, final noise

Later in life, Thomas thought often of the “forsaken, lonely ones” whom he had conjured in his poem. During the Johnson and Nixon administrations, he served on the President’s Science Advisory Committee (PSAC) where he warned of the “immediate hazard of nuclear warfare.” He was so concerned about atomic weapons, he thought that as a biologist, his spot would be better utilized by scientists who understood the peril at hand. In his memoir, he wrote, “If it were up to me, I would leave off the medical people and the biologists, or perhaps have them there as a small minority, and I would load them up with the best physicists in the United States.”

Thomas became a very active and vocal opponent of nuclear arms, collaborating with International Physicians for the Prevention of Nuclear War and corresponding with arms control negotiators such as Paul Warnke. In his 1984 book, *Late Night Thoughts on Listening to Mahler's Ninth Symphony*, he worried about nuclear annihilation. Invoking the “quiet, final noise within the ear” of a postapocalyptic earth he depicted in “Millennium,” he wrote that Mahler’s fourth movement was “as close as music can come to expressing silence itself.” He clearly loved the symphony; particularly a passage at the end when fading violins “are edged aside for a few bars by the cellos.” He wrote, “I used to hear this as a wonderful few seconds of encouragement.” The cello section signaled rejuvenation to him: “We’ll be back, we’re still here, keep going, keep going.”

But then Thomas noted that he had a pamphlet on his desk talking about the basing of the multiple-warhead MX missile, with each warhead capable of creating “artificial suns able to vaporize a hundred Hiroshimas.” Reflecting on such destructive power changed how he heard the music, as he put it, “making the Mahler into a hideous noise close to killing me.” The cellos, once harbingers of hope, now evoked a missile launch and “the opening of all the hatches and the instant before ignition.” Thomas used music as a muse for the deep despair that science, and even poetry, could not express.

VI. Nuclear winter

In 1986, in the foreword to the Institute of Medicine and National Academy of Sciences (NAS) report *The Medical Implications of Nuclear War*, Thomas cautioned that “if we go on this way, unthinking, putting it out of our minds,” civilization would be “gone without a trace. Not even a thin layer of fossils left of us, no trace, no memory.” Elsewhere he put these worries in the context of personal history, imagining what it would be like to be 16 again and contemplating a future that might not happen. Writing of the generations that came before him and his Welsh forebearers inscribed in the family Bible, Thomas confessed that when he was a teen, it “never crossed my mind to worry about the twenty-first century; it was just there, given, somewhere in the future.” But now humanity had the ability to end human time.

As a physician who had overseen hospitals and medical schools and as a communicator of science, Thomas sought to dispel *any* hope that the medical infrastructure could “cure a bomb.” There was no such thing as medical salvation from nuclear confrontation. After heralding medicine’s collective progress with bone marrow transplantation and burn and trauma surgery, Thomas got real. There would be no point in caring for “men, women, and children with empty bone marrows and vaporized skin.” Hospitals would be “subject to instant combustion” and, if unscathed, would

only be able to “salvage at their intact best” hundreds—not hundreds of thousands—of victims. He bluntly stated the futility: “As the saying goes, forget it.”

When the *New York Times* reported that Russia was holding drills on the use of tactical nuclear weapons in its war with Ukraine this past May, I thought of Thomas. In a 1982 essay that could have been in the *Times*’ op-ed pages today, he wrote, “even the neatest and cleanest of nuclear weapons, launched from either side, is not warfare in any familiar sense of the term.... Once begun, there will be no pieces to pick up, no social system to regroup and reorganize, nothing to command.”

Thomas spent the last decades of his life asking the American public to think the unthinkable. In the foreword to the NAS report, he implored journalists to overcome their misgivings about publishing articles that people would rather not read. “I raise my voice, yell sometimes, what the hell are newspapers for? You’re supposed to provide information, real news, and this is ... the news of the end of the world, print more of it for God’s sake before it’s too late.” He continued, “Put the nuclear winter up there on the front page every day, give it the blackest headlines you’ve got, make it the main story, run it and run it.”

VII. Coda

With poetic vision and scientific precision, Thomas anticipated the complexity of our time through the lens of his own. While he heralded the hope of molecular medicine, he also lamented the dawn of the nuclear age. His *New York Times* obituary described him as “evolution’s most accomplished prose stylist,” a tribute that honored his writing as well as his thinking about our place in nature. Thomas’s musings on humans as a species went beyond political science or sociology, heralding a speculative biology that prompts us to more closely examine our collective actions.

Thomas was willing to explore what he didn’t know, what he couldn’t know, inspiring new ways of knowing, experimenting with ideas and language to address complexity—in science as in society. His life and work are worth remembering and revisiting as a guide to our own.

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