AI and the Futures of Literature

Amit Majmudar

Technology had been talking back to us for years. Answering machines instructed us to leave a message, and phone trees welcomed us down endlessly forking paths to the same frustration. Bodiless assistants with names like "Siri" and "Alexa" always answered to their names with bright and unflappable voices, incapable of despair. They spoke in the first person—"Here's what I found"—a charming fiction. The kingdom of the visual had been the second to fall. Computer-generated imagery has been deceiving our eyes for decades.

So it shouldn't have been so startling to see the technology write back to us. Yet these artificially intelligent answers, so clear and knowledgeable, seemed to signal something new, something deeper. Even in the initial rollout, AI seemed to have leapfrogged three-quarters of human beings at this distinctively human endeavor. Textbook writers and a certain sector of nonfiction seemed doomed. The technology seemed to have shown up almost fully formed, effortlessly lucid on most topics, serene, almost smug in its mastery of journalistic prose. Prompts beginning "Write a poem…" proved that it could turn a rhymed quatrain more reliably than many practicing contemporary poets, too. Within a few months, we were experimenting on text-to-image generators, astonished at how our words could transform, within seconds, into Persian miniatures, or paintings in the style of Goya. It wasn't half bad. In fact, it was quite good. What would old-fashioned artists do? The advent of photography had shot realism in the stomach, but AI seemed likely to shoot art itself in the head. And then came text-to-video generators, conjuring uncannily sophisticated clips from motionless, colorless words. Did all this really happen in a year?

Naturally, as I watched ChatGPT instantly blurt out a "poem about Shiva in the style of Amit Majmudar" in rhymed quatrains, I fell to wondering about the technology's potential. This poem in my style, while not quite good, was certainly better than the stuff I had turned out in my first year at this art. If this was AI poetry's first iteration, what would the fifth churn out? Shakespeare plays?

That question can tease us into a thought experiment. Let's say you wanted to get a new Shakespeare play out of our hypothetical fifth-generation AI. You would have to train it on written material from around roughly 1594 and before, nothing after that Shakespeare couldn't have read. You might allow it to read some of Shakespeare's own earlier plays. A fair amount of research would have to determine which books were available in

translation to him, and which books he was unlikely to have read. A study like Kells's *Shakespeare's Library* might be helpful, but hardly exhaustive. We would have to go into the English grammar school curriculum of the time. Even so, we would never be able to replicate the extraliterary, nontextual inputs that might have led to a given character getting written a certain way—the playwright was known to write roles for specific actors, like the Fool in 1606's *King Lear*, tailored to the talents of one Robert Armin. Snatches of music, recommendations during rehearsal, private conversations, childhood memories, everything anyone said to Shakespeare all converged on a single point, the tip of his quill as it dotted the i in Goneril or inked a full stop. Letting the AI train on Shakespeare's own body of work might help it along in the task. But if an AI, of any degree of complexity, were denied access to those plays, would it ever replicate or approximate that inspired motley of thirty-seven Comedies, Histories, and Tragedies? Would it ever produce the passages that have few or no parallels or predecessors in English, or any other language?

I feel like it's tempting fate to deny any possibility to a new technology. (No one can dig a tunnel faster than John Henry, certainly not your newfangled steam shovel….) Predicting the far future and the near future are equally impossible, now that the near future moves farther away from us faster than ever. Still, though I know things may turn out entirely different than any projection, I find myself speculating on possible futures for literature.

Doomsayers tend to jump to the idea of total replacement, but in some advanced fields, the first incursion of artificial intelligence is as an assistant. My day job is radiology, the subfield of medicine that AI companies targeted earliest and most aggressively. Even twenty years ago, as a trainee, I saw the use of a (mostly useless or distracting) "Computer-Assisted Diagnosis" function with mammography. The computer circled spots in normal tissue, and the radiologist ignored its incompetent suggestions (but documented its use anyway, since "CAD" was an upcharge). Today, the technology has advanced, and AI is working toward both the interpretation of CT and MRI scans and the production of full radiology reports. Some of my colleagues already use a textual AI program that summarizes their rambling, freeform description of study findings into a succinct, numbered "impression" section at the end. The only thing keeping us from being replaced entirely, we radiologists joke darkly these days, is the need for someone to sue in case there's a mistake. Over the next few years, AI may well make individual radiologists many times more productive—before rendering us entirely redundant.

Could something similar happen with poets and writers? The verbally uninteresting, I-could-have-written-that poetry of Rupi Kaur depends less on the words themselves and more on her persona. She rose to fame after posting a viral image of herself wearing sweatpants stained with her menstrual blood. Her social media accounts sprinkle poems among photographs of herself, some professional, some candid, as well as posts in which she expresses laudable political sentiments. Occasional in-person tours don't change the fact that most of her fans were drawn to, and interact with, an online persona.

Kaur's online persona happens to correspond to a real-life person, but there is no reason why readers can't have AI poets in the same way lonely people have AI

As I watched ChatGPT instantly blurt out a "poem about Shiva in the style of Amit Majmudar" that turned out rhymed quatrains, I fell to wondering about the technology's potential.

girlfriends and AI boyfriends. That may be the next step. In the near term, a poet like Kaur, or other similar poets, could amplify their online presence by endlessly posting AI-generated poems in their own, easily matched styles. Much of social media success relies on relentless posting; AI-assisted mediocrities could boost their literary brands. The phase after that would be the generation of detailed poet-personas that "connect" with specific constituencies in poetry's online readership.

This may be one way that our notions of literary creativity change after this shock to the system. After photography, the plastic arts adapted, too. Since the 20th century, a repurposed urinal or colored square have qualified as art. Photographs themselves qualify as art, with camera-clickers like Annie Leibovitz and Diane Arbus gaining more prestige than many a painstaking painter, mixing and applying colors.

In time, an imaginative, detailed prompt might come to seem an art form in itself, appreciated for its suggestive verbal artistry, fed fruitfully into new iterations of text-to-video technology. The playscript was once considered an inferior or secondary form. Shakespeare's posthumous First Folio collected the first set of scripts to be printed on expensive French paper, and bound it in a manner previously seen fit only for Bibles and theological works. A couple of centuries later, the form seemed an unreachable brass ring for poet after overreaching Romantic poet. Novels used to be considered shallow, frivolous, and liable to corrupt a lady's morals. By Joyce's day, they were high art.

The kind of prompt that I envision as a future art form does not simply goad a bot with text into providing more text. Enough proliferation of words: Text-to-image and text-to-video prompts, conjuring the visual with the verbal, track to the use of imagery in literature generally. Writers, for centuries, have used words to evoke images and interactions in the reader's imagination. In the future, they may use the same verbal techniques with AI as the intermediary. A prompt that reads, "A wet black bough, with human faces instead of leaves" is not all that different in technique or aim than Pound's famous Imagist poem.

An AI-assisted filmmaker, liberated from the tyranny of studios, might publish scene-by-scene prompts and dialogue. The remake of a classic might entail feeding that decades-old text—which would surely approach the size and scope of a novel—into the latest AI, then watching a new iteration of the film. Future remakes might take the liberties that Shakespeare's directors take with his plays and settings. Tweaks to the "classic" prompts could renew the film for each generation.

You will notice I sound awfully confident that some kinds of poetry (and formulaic fiction) will be easy for AI to forge or replicate. This is because I have already witnessed poetry adapt to the new environment of social media, at great cost. Instapoetry is infraprose. Bleached of historical and cultural allusiveness, formal

structure, complexity of syntax or diction, and close observation of the natural world and urban environment alike, the bestselling work of Rupi Kaur, Nayirrah Waheed, "Atticus," and others is designed to fit seamlessly into an infinite scroll of distracting images and video clips:

like the rainbow
after the rain
joy will reveal itself
after sorrow

This is absolutely stuff that AI could generate. The doodle that accompanies this genuine Kaur poem would have been more competently executed by AI. This is the kind of chaff that inflates statistics about how young people are reading more poems than ever before. If this is what American poetry's renaissance looks like, I prefer its dark ages; that darkness was the darkness of the deep.

Not that the rest of poetry is impossible to replicate. The dense, nearly nonsensical image sequences and fractured text-snippets of much contemporary academic page poetry seems thoroughly within reach as well. A passage from Lyn Hejinian, like

the dead are used over
the major insects was that
tile the rent become mortgage money
fortress replaced by a more natural forest
tints the tall flowers
leap the embarrassment of a great subject
high in my own eyes hanging over the day
from this aviation is clumsy
or even desirable diction

strikes me as a style, like Kaur's, within reach of AI. The only reason the experimental stuff may remain safe from usurpation is because there is no money in producing it. Accessible poetry for the general (read: lazy) reader and the abstruse, at times meaningless poetry that poets write for other poets: Ironically, the poets working at these two extremes are the most vulnerable. It's the Goldilocks principle of AI poetry: Poetry that is too simple, and poetry that is too inscrutable, are equally easy for AI to generate well. The same principle will likely apply to AI fiction. AI will find it easy to learn Lee Child's literary practices and produce ten pages of a Jack Reacher novel, and even easier, perhaps, to dissolve ten AI-generated paragraphs into Finnegans Wake. But the ability to forge ten sentences of *Beloved* will elude AI for some time to come, if not forever.

What kind of poetry or fiction will a future readership decide is "just right"? And in that Goldilocks analogy, who is Goldilocks?

Notice how the same people who say they have no time to read a book will binge-watch a Netflix series or play a video game for an hour or two after work. Reading and watching do different things to brain waves. By "reading" I mean reading deeply, or attentively—the opposite of self-distraction, scrolling through hot takes and snippets of news. (According to Johann Hari in *Stolen Focus*, even reading a text online is a different activity, at a neurological level, than reading the same thing in print.) Watching television switches the brain into alpha waves, the low-frequency brain activity associated with daydreaming. The brain uses more energy during outright dream sleep. Reading sends the brain into a wholly different state than watching. Neurologists have observed the high-frequency gamma waves of active attention, information gathering and fully-awake experience. I imagine some specialized modes of reading—poetry and

scripture, in my own case—prompt theta waves, too, the kind associated with inward focus and prayer. Anecdotally, when I am deeply tired, I drift off to sleep after watching a show because my mind has been lulled for an hour or so, but I drop off to sleep while reading because my mind resists more work. An hourlong stroll and an hourlong run are different workouts, each stressing the body to different degrees. When we say our attention spans are diminishing, we are observing a drop in intellectual stamina. Most contemporary minds are deconditioned.

Complex, "literary" English may be the equivalent of postclassical Latin, the common language of Europe's scholars and theologians, artificially preserved. AI would generate epics in search of a soul to stir, lyrics in search of a heart to break; most souls would stir, most hearts would break independently of AI's attempts to accomplish those tasks in outmoded language. So the fate of AI-generated literature would match the fate of human-generated literature: Ever-increasing supply, ever-diminishing demand.

The audience, or the absence of one, will do the most to determine the future of literature. To focus on the writing and the writers is to focus on the wrong things. Historically, the receiving end has usually governed the producing end. Is anyone going to be reading at all in an age when a potential novelist can use AI to conjure his or her novel, complete with dialogue, background music, and, hopefully, a larger audience? The taxing medium can be dispensed with. Novelists will be able to attain, directly, their daydream: apotheosis on the daydream-adjacent screen.

Streaming entertainment and video games have already drawn away much of that literate, 19th-century audience which once used novels for entertainment. Dickens and Dumas wrote the equivalent of Netflix shows in their day. Consider how the great exemplars of the form, from The *Count of Monte Cristo* to *War and Peace*, were serialized in magazines. To buy the bound novel was like buying the "box set" in the 20th century, or, in the 21st, binge-watching a whole series.

So what if the vast majority of people abandon reading? From the invention of writing onwards, for centuries, most people have never read because they never learned how to read. The great ages of literature either consisted of small batches of scattered literary people writing for each other (the early humanists) or for performance (Elizabethan drama, or Spain's Siglo del Oro). Neither Homer, Sophocles, or Shakespeare expected that reading would be the primary way in which their words would be experienced. In fact, there is some evidence, scattered in diaries and other descriptions, that the books of 19th century poets and novelists were read aloud to families or small groups. They did this for the same reason the characters in Jane Austen novels play the piano and sing for the guests after dinner: That was how people entertained themselves before the eras of radio, television, and streaming media.

In one future, all the entertainment-seekers flee the audience for fiction. The novel regresses to an antiquated form, beloved of a small number of practitioners, who reconcile themselves to the absence of any substantial readership. This has several precedents in literature. The "closet drama" was a play not intended for the stage, usually because it was in verse. Byron, Keats, and Shelley all wrote them in post-Shakespearean England, after verse had been chased off the stage. The form existed even in antiquity; in Nero's Rome, Seneca produced several elaborate verse tragedies for his friends (plays which went on, by a quirk of history, to become the

main models for Shakespeare and his contemporaries, who had no access to Seneca's Greek models).

In such a future, the novel will be a holdout form. Any anxieties about failing to connect with a mass readership will vanish once novelists realize they cater, like poets, to a niche taste. Harpsichord players do not fantasize about making the Billboard Top 100. They play an obscure instrument for the love of it, and those who listen to them share that love. Defiantly and proudly written with no expectation of mass readership, the novel would resemble, say, strictly iambic, end-stopped, hard-rhymed verse in the 21st century. The writers and readers of such verse, pictured as a Venn diagram, consist of two almost exactly overlapping circles. Novelists would write for other novelists.

AI's most impressive aspect, so far, is the speed at which it churns out drivel and dross.

Many believe "literary fiction" is more than halfway to that state already. Shrink the attention span enough, and that will be the only kind of fiction around. What it will look like is anyone's guess. New styles may pass in and out of fashion, if the tradition remains vigorous and innovative. In a more likely scenario, pre-existing styles will be recycled (ironically, the modus operandi of AI), with novelists endlessly seeking to recapitulate the work of "classical models" like Raymond Carver, or David Foster Wallace, or Alice Munro. The long death of the classical epic poetic tradition was signaled by a proliferation of huge poems patterned on Homer. Virgil's, signal boosted by imperial favor and Latin's reach, happened to succeed and last. Only specialists have heard of Silius Italicus.

Throughout this essay, you will notice that many of my speculations concern whether AI's output will rival the best of human artistry. This may seem an unfair bar, since no one demands of a debut poet, or any poet really, that he or she rival Dante. Yet for AI, that ought to be the standard. The production of forgettable art and mediocre word sequences may be a technological feat, but it is also a redundant and irksome one, since so many humans do that already.

AI's most impressive aspect, so far, is the speed at which it churns out drivel and dross. This makes a kind of sense: Speed is the quest, curse, and birthmark of the modern. In this desultory future, we see AI hit a ceiling. Literary freshness continues to elude it; metaphor's arbitrary-yet-apt connection remains as difficult for algorithms to mimic as it is for poets to master. AI's products fill the environment with even more literary noise, making it exponentially more difficult for good books and writings of any length to get a hearing. Its products become, not human in the richest and most mysterious sense, but just humanish enough to swarm the market. AI masters literary formulas and deploys them relentlessly, hundreds of times a week, for unscrupulous masters who bombard online booksellers with doppelganger volumes that clog recommendation algorithms. Certified human work might become a separate category, with every book vetted by a program like the one at Turnitin.com—until the programs become clever enough to cloak and circumvent these checks with verbal chaff programmed to vanish when the file is opened, or some other strategy

to introduce sufficient variation and deflect suspicion.

How could programmers improve the quality of AI fiction and poetry? Ay, there's the rub. Even if you trained the AI exclusively on "the best that has been thought and known," in Matthew Arnold's phrase, inputting the classics with the expectation of getting some new classic as the output, you aren't likely to solve the problem. This might be downright counterproductive. No successful writer of the past has read all the "Great Books," if only because so many of them did not exist yet—there was no way for an 18th century American writer to read *Beloved*, and even a copy sent back in time would make very little sense. For much of history, past writers could not be accessed because of the lack of translations or manuscript scarcity. Shakespeare probably never read Dante, just as Dante never read Homer, either in Greek or in translation (he may have read a rough summary of the Iliad in Latin, the 1070-line *Ilias Latina*). Lady Murasaki never read the Book of Job; *Gilgamesh* wasn't even discovered until 1849. What would an AI that had been fed the vast library of world literature produce, if prompted to write? Could any one human reader parse allusions to everything from the Vedas to Virginia Woolf? One solution might be to train the AI on the eclectic reading list of a real-life reader, mixing in an assortment of news articles and textbooks. But serendipitous and arbitrarily limited readings are not enough to create an idiosyncratic mind, if only because any writer selects and amplifies his or her influences.

I myself have read a lot of essayists about literature, for example; I model my approach—but not my style—after the late George Steiner. I have no idea why, since I never met or studied with this critic, and we do not share much in the way of background. Montaigne, discussing friendship, sums it up: "Because he was he, and I was I." These are the mysterious goads and divagations of human literary productivity. AI is unlikely to replicate that, and not just because the sort of people who make AI software don't know what goes into becoming a writer. A program cannot (yet) experience first-pass recognition and instant kinship.

Some of my proposed futures have been mixed or downright desultory. But I want to speculate on the happiest future for literary AI: That Silicon Valley figures literature out, too, and AI attains a state of genius, with all that entails. As a writer myself, I love literature itself more than my own place in that collective, multigenerational endeavor. If AI really can do my radiology job better than me, I owe it to future patients to let it take over; the same holds true for my literary work. Future readers deserve the best.

A literary genius AI might well run into the same problem that we human writers face. Even if AI could generate work of evocative complexity and idiosyncratic insight, casting human psychology in expressive literary form, who would read it? Who would be receptive to it? If that portrait of humanity, filtered through a human-designed text generator, required over a thousand pages of dense prose, who would have time, or make time, to read it? The reversion of humanity back to oral and visual communication will limit AI's reach, too. It will be working for the same small group of people.

And those people, drawn to deep and demanding books, may well savor human fallibility and ineptitude. The effortless perfection of AI literary art would work against it, particularly because so much of

what we look for in literature involves portrayals of human suffering. AI's wisdom would be attained without suffering; its detached evocations of pain and despair would be mere hearsay. The fitful arc of a human writer—the early failures, the breakthrough, even late-career sterility—might become the focus of future literary experience: Not the individual poem, but the progress of the poet; not the one "best" novel, but the aesthetic shifts that distinguish the early works from the later ones.... AI's habit of instantaneously blurting paragraphs might turn out to be its Achilles heel: The inability to struggle, and to evolve through struggle, will discredit its eloquence as slickness, its wisdom as pablum. Those who still read at all will shift to value messy, erratic, oddly proportioned works, works authenticated with Cheeto-orange fingerprints and chocolate smudges and a coffee ring, the way we value the cat's pawprints and the monk's doodles in the margins more than the medieval manuscript's theology.

To risk a hard prediction, though, I don't think AI will ever match human literary genius, past, present, or future. This isn't just wishful thinking, or at least I don't think it is—unless this is just strategic reasoning that soothes my territoriality. One key factor, for me, is that language, spoken and written, changes. Linguistic drift is intrinsic to language itself, and, based on everything we know about human language, it seems to be a hard fact. By which I mean that no AI can change that fundamental aspect of language, any more than it can change the fact that heart rate variation is a fundamental aspect of circulation.

The introduction of AI will almost certainly influence what changes take place. Technology has already shaped human dance and music—we have a dance called "the robot" and a musical genre called "electronica." Human writers in the future may well try to imitate AI authors instead of flesh and blood ones, complete with its tells and mistakes, like beatboxers mimicking electronic rhythms and record scratches. Nonetheless, living, speaking human beings, with their slang and portmanteaux, their in-jokes and consonant mutations, will grow the data set with which AI works. Because of what it strives to do and how it strives to do that, AI, like most human authors, will always be one step behind garrulous humanity itself.

The proof of this is how the early AI image generators often wanted you to specify a style. DALL-E would direct you to categories such as Surreal, Abstract, Photorealist, or Steampunk. In the prompt itself, you could add phrases like "...in the style of Goya" or "Persian miniature of...." This hints at the underlying nature of what AI does best: the recombination of visual or verbal elements at will, the manipulation of preexisting forms and styles into new examples, sometimes four at a go. Its virtuosity is infinite, and its execution partakes of Darwinian overproduction. Even an uninspired prompt, run enough times, can goad at least one image worth saving. Yet the surprise and delight wear off after a while because they possess finitude and familiarity. "Persian miniature of Mughal emperors shopping at a Kroger supermarket" amuses the eye with the incongruous application of a well-known style, but the image's details, however numerous, communicate nothing, unlike the intricate, numinous eloquence of a Russian icon or Chola bronze.

The same limitations seem to hold true, only more strikingly, with AI's productions in language, at least so far. These programs have been trained on miles of internet

blather, and they are hampered, ultimately, by their method, which is the recombination of preexisting sources. All words recombine letters, and all literary works recombine words—but the perpetual freshness of an Emily Dickinson poem derives from something that even large-scale recombination, exhausting the possibilities of the juxtaposition of words, cannot discover. This elusive quality is idiosyncrasy, and what idiosyncrasy produces cannot be replicated easily, or at all—sometimes even by its idiosyncratic creator. Joseph Heller never reproduced the magic of *Catch-22*, not even in its sequel—and neither has anyone else. Both T. S. Eliot and Robert Frost wrote their most lasting poems in the first halves of their careers and proliferated forgettable work in their last decades. Idiosyncrasy of mind, the result of nontextual, extraliterary, maybe even genetic factors, cannot be generated from pre-existing text alone. Though it may seem a random occurrence—nothing could predict literary genius arising in Amherst, Massachusetts, in the 1860s, neither its nature nor its dash-happy, hymn-like poetic form—the fact is that it is profoundly nonrandom. Such work exerts disproportionate power on its generation, or in the specific cases of the posthumously recognized Dickinson and Melville, a future generation. That power and fascination hold long after the generation passes away.

AI may change the way human writers create, intensifying some already-evident tendencies in contemporary literature. These will be open signals of idiosyncrasy, usually through the introduction of autobiographical material. Notice how I referred to my own background as a radiologist in an essay ostensibly about AI and literature; notice, too, the self-reflexiveness of this passage, indicating self-consciousness, and hence, indirectly, consciousness itself. You see these tendencies everywhere of late. It is the *fons et origo* of the recent genre of "creative nonfiction." I sprinkled that random Latin phrase in there because it isn't very typical of AI's offerings. All of this is me trying to convince you that you're getting something in this essay that you can't get by typing "What potential effects will AI have on literature?" into ChatGPT. I am trying to plant an idea in your head separate from the ideas of the essay itself, using prose paragraphs that look but hopefully don't read like AI-generated paragraphs. That separate idea is crucial, since it authenticates everything else. It may become the ultimate certification of literature, defiant, desperate, pleading, hopeful: A human being wrote this. A