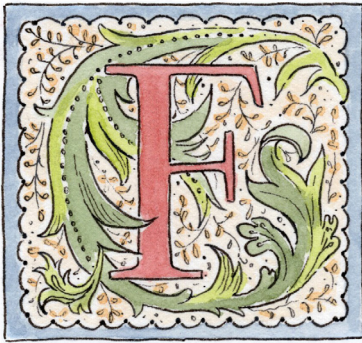


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# A Maimonides for the Age of AI



FROM THE MOMENT our hominid ancestors created stone tools and domesticated fire, technology has been changing the world and ourselves. Major technological turning points drive social, economic, and cultural change. They also fundamentally change our understanding of what it means to be human. And yet, faced today with technological changes from AI to genetic engineering to neuroscience, we seem to be walking blindly into a future we can't fully comprehend, without a conceptual and ethical framework to guide us.

How should we proceed? And do Judaism and the Jewish community have something particular to offer? In one of humanity's most fateful technological changes—the shift from hunter-gatherer societies to agricultural ones—Judaism provided what became the dominant theological, anthropological, and ethical guide to the new technological order. Can we lead again, providing a guide to the new world steamrolling toward us?

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Agriculture—the domestication of plants and animals—first developed about 12,000 years ago, probably somewhere between Israel and Turkey. That technological transformation required, above all, a metaphysical leap.

Hunter-gatherer cultures would find agriculture and cattle farming—which treats plants and animals as literally *in-animate*, that is, without a soul—as close to inconceivable. Foragers believed that no essential gap separates humans from the rest of creation. They talked of trees, mountains, and animals as being in the same natural fabric that they themselves were part of. For farming to succeed, a new philosophical construct was needed. While many civilizations tried, it was Judaism that ultimately provided such a model.

The Bible is both a product of and a theological justification for the agricultural revolution and the accompanying change in humanity's relationship with nature. Adam and Eve were foragers in the Garden of Eden. Expelled, they would eat bread by the sweat of Adam's brow; that is, they would become farmers. Nevertheless, the Bible that set God above nature sanctified humans, for we are created in His image. In animist cultures, Man was one character among thousands. Now he was the hero, with animals and plant life radically downgraded. In the Flood, Man's iniquity justified destroying the world. That millions of animals died because of Man's sins is not seen as a problem by God or Noah. All life except humans became extras.

There's a theology of separation—God transcends nature—and an anthropology of separation—humans transcend everything in nature except themselves. No more talking to animals, rivers, and trees and certainly no more praying to them. For good measure, there is the story of the snake: See what happens when you talk to animals?

Of course, not all the changes brought about by farming were positive, not even for humans. In his article “Our Biggest Mistake,” Jared Diamond relates the many ways in which life became worse for humans. Diets became poorer and, as a result, life spans shortened. Society became highly stratified and unequal. Agriculture requires a lot of land and labor—and wars to capture both. More land means more grain, which can be grown and harvested by slaves, who are also needed to build storage shelters and even cities such as Pithom and Rameses, which were erected by our enslaved Hebrew ancestors. Farming transforms highly egalitarian forager cultures into societies in which exploitation becomes the norm.

Farming changed our conception of everything. God and man, of course. But also time and space. Time, because farmers need to plan beyond the short term. Space, because farming is only possible with land ownership.

The Hebrew Bible provided the most powerful theological and anthropological scaffolding for the new technology. But it also provided an *ethical* framework for it.

Man may lord over creation, but he must also accept constraints on his power. For example, the laws of kashrut minimize animal suffering—and so signal a limit to man’s power over animals. We may not yoke two animals of different strength together. We must feed our animals before ourselves. We must allow our animals to rest on the Sabbath. The new technological order required a new ethics.

Judaism also mitigates the effects of farming on social structure. Conscious of emerging inequalities, the Hebrew Bible created *shmita* “release” years and *yovel* “jubilee” years—reset mechanisms by which land returns to its original tribe and debts are canceled. The Bible also insisted that one leave the corners of one’s field unharvested to support the needy. Slavery could not be eliminated, but it could be humanized and limited, to the point that it became rare (and proba-

bly uneconomical) in Jewish society. Paid laborers were protected in ways unusually advanced for the time.

Judaism's moralization of agriculture became ethical monotheism. Successful farming depended on the weather, so Judaism linked good harvests to good behavior: *If you will obey My commandments. . . . I will give rain for your land at the proper time . . . and you will gather in your grain, your wine, and your oil. And I will give grass in your fields for your cattle, and you will eat and be sated, and bless the Lord your God.*

This rethinking of God, Man, Space, and Time didn't stop with agriculture: It responded to and shaped every major subsequent technological transformation. In *The Protestant Ethic and the Spirit of Capitalism*, Max Weber famously argues that capitalism as we know it would not exist without the Protestant revolution. Notably, the single most important factor in the success of the Protestant Reformation was the printing press. The Bible was the first book to be printed in the West using movable type. The Jews may not have been responsible for the rise of Protestantism, but our great book, the Hebrew Bible, played a crucial role: With thousands of Bibles in people's hands, people could read and interpret them on their own, which dramatically weakened the power of the church and opened the gate to a revolution in human agency.

In the following centuries a new human would emerge, a sovereign self who would challenge revealed authority and find truth through human reason and observation. That new understanding of humanity was the key to the scientific and industrial revolutions and the entire edifice of modernity.



The technological changes of the 21st century may be as transforma-

tive as the agricultural revolution. A vast corpus of utopian and dystopian literature describes how our world is about to change, from the way we work to how we interact. By and large, however, it leaves the transcendental questions unaddressed.

Artificial intelligence won't only automate "human" tasks; it will redefine what "intelligence" is. Meanwhile, genetic engineering, gene-editing techniques, and human-machine interfaces are ushering us into what the computer scientist and author Ray Kurzweil called "transhumanism." Once you have a genetically altered, robot-enhanced human, is it still human? At that point, what does it mean to be human? As Rabbi Danny Schiff notes, vulnerability is at the core of humanity. Can compassion and charity exist without vulnerability? If biotech creates "superhumans" invulnerable to disease and perhaps also invulnerable to pity for others (including us), will they still be human?

The problem goes deeper. Self-programming autonomous machines are changing the very definition of life. What does it mean for a thing to be alive? What difference does it make if a "body" is made of silicon or carbon, if it fulfills the same functions?

And what of consciousness itself? If consciousness is merely the result of chemical processes in the brain, then won't we sooner or later be able to replicate them? Would we then have created living, conscious beings? Would we then say that a self-aware, conscious computer has a soul? If a machine can develop feelings, is unplugging it murder?

And where is God in all this? Has He ceded His place to us, as Yuval Noah Harari claims? Is God now, *kiviachol*, so to speak, just an algorithm? If computer simulations like the ones in *The Matrix* are no longer inconceivable, could God be a teenage hacker eating potato chips in his basement in the universe next door? How long will it be until we are like Pandora with a "What have I done?" expression on

her face, her box wide open, struggling to understand, let alone confront, what just flew out of it?



Can we lead once again, theologically and anthropologically, as we led 4,000 years ago?

Current indications are not promising. To the questions that face us today, there are few Jewish responses, and they tend to be halakhic rather than theological—i.e., they focus on whether something is allowed or forbidden within the legal framework established by the Torah and the Talmud. But the situation we face today will require us to go beyond a legal response into theological, anthropological, and philosophical territory, because it questions the very assumptions upon which the halakhic edifice is built. We need a conversation about these assumptions and what the coming changes are likely to mean for our conception of Man and God. The problem is that we live in a time when ideas are devalued, especially in America. Alexis de Tocqueville said prophetically, “I think that in no country in the civilized world is less attention paid to philosophy than in the United States.” Jews have their own reasons to avoid metaphysical conversations: In a community with low Jewish literacy, the focus is on low entry barriers to Jewish engagement.

Some say that Judaism always privileged action and was never fond of theological debates. That is inaccurate. The Bible and the Talmud contain an implicit theology articulated in midrashic debates. In addition, Judaism developed sophisticated conceptual constructs in response to philosophical changes: Philo of Alexandria responding to the ideas of the Stoics; Saadia Gaon responding to the Kal’am movement; Maimonides reviving and adapting Aristotelian traditions; Kabbalah Judaizing the Gnosis; Soloveitchik critiquing Kant. All these

contributions required fluency across both Judaism and the zeitgeist.

Today, however, I can't think of a single rabbi who knows, let alone critiques, the different theories of consciousness defining the AI debate. And so we have been caught flat-footed by the changes we confront. We simply don't have the conceptual language to participate in the conversation. Many of the leading figures of the new world are Jewish, including, for instance, the creator of the first chatbot, Joseph Weizenbaum. But Jews who know the new technologies—some of whom, including Weizenbaum himself, have written important books on AI—had or have no relevant Jewish conceptual universe to draw on. And those who understand Judaism generally lack the scientific and technological expertise to grasp the consequences of the changes we confront. This is because Jewish techies and Jewish scholars live in a world that, for decades, has devalued deep conversations about transcendent questions. The halakhic approach—deciding technological questions one by one: Should it be allowed? Forbidden? Tolerated? Limited?—is useful. But it will not suffice.

Imagine being in a submarine but not knowing it: If somebody asked you whether he could open the hatch above your heads, you'd have no good reason to say no. Obviously, you must first establish that you're in a submarine before you even discuss opening the hatch. Just as the framing—boat or submarine?—guides the response of the captain, so the theological and metaphysical framing that Judaism is working within conditions the halakhic response.

A second challenge is that halakhah relies on precedent. We can sense the strain when we find ourselves discussing whether robots should be considered human. The precedent concerns whether a golem can be counted in a minyan. The answer is no because the golem is incapable of speech. But what, then, when we have robots that can think and talk like humans?

The halakhic method has worked so far because its theological and

anthropological foundations have proved equal to the changes we have dealt with. But the Torah provides a metaphysics for mankind. It has nothing to say about supermankind, which it couldn't even conceive of. So if we are to develop a metaphysics for AI, we will need a full refoundation of Judaism down to its most basic concepts. That refoundation need not break with or contradict the old foundation, but it must reevaluate it comprehensively.



Time is not our friend. The agricultural revolution was a long, slow march: In prehistory, advances took millennia. Today, we will be lucky if we get a generation. It behooves us, then, to know exactly what questions we need to answer. Human survival in the “transhumanist era” will depend on our ability to provide a three-dimensional answer to the coming challenge:

*The metaphysical answer.* What is Man? What is God? What is consciousness? What is freedom?

*The ethical and moral answer.* What should be permitted, forbidden, or encouraged in this new context for both human and artificially intelligent beings? And how would this be enforced?

*The behavioral answer.* This will require developing and modeling a positive framework of behavior for humans as well as intelligent machines. Examples of this abound, from software that analyzes CT scans without life-threatening errors to the work of Israeli researcher Kira Radinsky in using AI to predict flu outbreaks.

These three dimensions must be worked out in parallel, for all need to be in place for us to answer even simple questions. For instance, Kurzweil argues that we should develop machine-brain interfaces to enhance our brains' abilities, not just to cure diseases. How can we agree or disagree without knowing what it means to be human and



what, therefore, should be permitted and prohibited, encouraged and discouraged?

Who is going to answer these questions? We can, if we wish, turn them over to the experts. As I have noted at some length, however, halakhah deals only with the second and third dimensions, which is why we have a problem in the first place. I mean no disrespect to the intellectual and moral leaders of the Jewish world when I say we need a new Maimonides.

But one cannot conjure a new Maimonides out of nothing, because one can't conjure metaphysical and theological thinking out of nothing. They emerge out of an intellectual ferment, a social "mood" that encourages them. That means we need a Jewish community in which the type of work Maimonides did is valued. How do we create such a community?

*First*, comprehensive Jewish education is crucial. How can we reformulate Jewish thinking if we don't know the texts and history on which it is based? If Judaism is going to play a role in our new world, we must know what Judaism is.

*Second*, this expansion and deepening of Jewish education must take place in an environment in which metaphysical conversations are encouraged and rewarded. There was a time when being conversant with the realm of ideas was a prerequisite for leadership. We need to re-create that world. Jews famously value intellect and study; this is surely a cultural change that Jews can lead.

*Third*, we need a new "vascular" system that encourages communication between Jewish thought leaders, secular philosophers, scientists, and technologists. We need forums in which the best and the brightest in AI and biotech can interact with leading rabbis and other thinkers. Imagine putting Abraham Joshua Heschel, Joseph Soloveitchik, Sam Altman, Bill Gates, Rosalind Franklin, and Ray Kurzweil in a room — the living talking to the dead, something that

may actually be possible in a world not impossibly distant from now. Imagine Jewish leaders and scientists routinely trading places to consider the world from one another's perspective.

*Fourth*, through mechanisms such as impact investing and philanthropy, we need to encourage the development of AI tools that enhance communal life and human flourishing in areas where there's already broad agreement. We may disagree about whether AI should be making autonomous decisions about medical treatments, but surely we all endorse Radinsky's flu-predictor tool.

*Fifth*, we must recognize that none of this will work if we aren't intellectually curious, which means developing tolerance for marginal and divergent ideas. As Thomas Kuhn famously noted, paradigm changes come from the margins. Yet in our censorious environments—perhaps especially in America—conformism and dogmatism are replacing curiosity. We don't need a culture of “anything goes,” but we do need radical thinking. Who would suggest that asserting that humans are made in the image of God wasn't radical 4,000 years ago? If we fear radical ideas, our reimagining will not be bold enough.



I have worked for many years in the Jewish philanthropic world, so it will be no surprise that I see a leading role for funders. They should invest in ways that encourage the development of the ecosystem I have sketched here. They must be ambitious. Jews, particularly young Jews, tell us they want experiences thick with meaning and content. After Covid, they are reevaluating many of the tenets of their culture. We should not be surprised to find contemporary young Jews motivated to tackle the biggest questions of the day. Can you think of a worthier and more exciting Jewish project than helping humanity confront the one-in-10-millennia challenge it faces today? \*