

# Artificial Intelligence at the Crossroads of Science, Ethics, and Spirit

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Artificial intelligence (AI) today stands as a defining force in science and society, driving innovations while provoking profound questions about humanity's future. As machine learning algorithms and generative AI systems advance at breakneck speed, they demand unprecedented computational resources and energy. This rapid growth has tangible consequences: sprawling data centers, surging electricity and water consumption, and new strains on environmental sustainability.<sup>1</sup> At the same time, AI's emergence raises metaphysical and ethical dilemmas as old as philosophy itself—questions about the nature of mind and consciousness, the fate of human labor and dignity, and even the spiritual trajectory of our species. To appreciate the full scope of AI's impact, I think we have to explore both the empirical scientific reality of AI's expansion and the ethical-metaphysical reflections it has inspired. In doing so, we see that contemporary research on AI is not only an engineering endeavor but also a canvas on which scientists, ethicists, and theologians project humanity's deepest concerns and aspirations.

## The Scientific Landscape: Growth, Power, and Climate Costs

AI's recent renaissance—especially via deep learning and neural networks—has led to systems of astonishing capability, from large language models to image generators and complex simulation engines. The pursuit of ever more powerful AI has become a global “gold rush,” with technology companies and governments pouring resources into AI research and deployment. Economically, the generative AI market is booming at an annual rate of around 40%, projected to grow from roughly \$44 billion in 2023 to nearly \$1 trillion by 2032.<sup>2</sup> Underlying this surge is a vast physical infrastructure: hyperscale data centers packed with tens of thousands of servers and specialized AI chips. These data centers form the backbone of cloud computing and AI services, enabling everything from social media feeds to advanced scientific modeling. As AI adoption grows, so too does the need for these digital factories of the information age.

The expansion comes at a steep environmental price. Running AI models—especially training large neural networks—demands enormous electricity, much of which is still generated by burning fossil fuels. In 2023, data centers in the United States consumed about 4.4 percent of the nation's electricity, and that share is expected to rise substantially in the next several years.<sup>3</sup> Globally, some analysts project that AI-related data center energy use could account for as much as 21 percent of total electricity consumption by 2030 if growth continues unchecked.<sup>4</sup> Such an energy footprint threatens to derail climate decarbonization targets. Analysts at Brookings, drawing on research by Lawrence Berkeley National Laboratory and others, warn that data

center electricity demand may grow to 6 percent of U.S. electricity use by 2026 and significantly contribute to grid stress.<sup>5</sup>

A 2025 study in *Nature Sustainability* by Tianqi Xiao and colleagues models scenarios in which rapid AI growth could add 24–44 million tons of CO<sub>2</sub>-equivalent emissions per year and 731–1,125 million cubic meters of water use by 2030, absent strong mitigation measures.<sup>6</sup> These numbers make clear that the pursuit of advanced AI is on a potential collision course with the urgent need to reduce carbon emissions unless major changes are made in how we power and cool our machines.

Beyond carbon and electricity, AI's physical infrastructure has other environmental impacts, notably on water resources. High-performance computing hardware generates intense heat; cooling the servers often requires vast amounts of water for air conditioning systems or evaporative cooling. Some large data centers are estimated to draw hundreds of thousands of gallons of freshwater per day for cooling alone, especially in hot, dry regions.<sup>7</sup> In areas already facing water stress, this creates competition between tech infrastructure and local communities for a precious resource. Across the United States, many popular data center locations are in regions grappling with water shortages or drought.

The geography of the AI boom matters. Building massive server farms in hot or arid climates can exacerbate environmental strain, whereas in cooler, wetter climates the load might be easier to bear. Xiao et al. show that siting has a measurable effect: AI servers deployed in hotter Southern states such as Florida and parts of the Southeast tend to incur higher cooling and water-use inefficiencies (as reflected in metrics like Power Usage Effectiveness and Water Usage Effectiveness) than deployments in milder northern regions.<sup>8</sup> In simple terms, a server in Florida may demand more electricity and water to remain within safe operating temperatures than a comparable server in Washington or Oregon. Climate and infrastructure intersect local environmental conditions that directly shape the sustainability of an AI installation.

## **Building the AI Backbone: The Southeast as a New Tech Frontier**

To grasp the scale of AI's growth, consider the construction boom of data centers—often likened to the factories of a new industrial revolution. Nowhere is this boom more evident than in the United States, which currently hosts the largest share of data centers worldwide.<sup>9</sup> Within the U.S., certain regions are experiencing especially rapid growth. Traditional hubs such as Northern Virginia, Silicon Valley, and the Pacific Northwest are now joined by the American Southeast as a hotbed for large-scale data center projects. States like Georgia, Louisiana, Alabama, and Tennessee—once better known for agriculture or heavy industry—are aggressively courting tech infrastructure investments, drawn by cheaper land, favorable regulatory regimes, and access to power.

One headline-grabbing project illustrates this trend. In December 2024, Meta (Facebook's parent company) announced plans to build a \$10 billion artificial-intelligence-optimized data center campus in rural northeast Louisiana.<sup>10</sup> Located on a 2,250-acre former farm site between the municipalities of Rayville and Delhi, the project will encompass roughly 4 million square feet of server halls and related infrastructure, making it the largest of Meta's data

centers globally.<sup>11</sup> Louisiana officials have framed the investment as transformative: they anticipate thousands of construction jobs during the build-out, more than five hundred permanent data center operations positions, and over a thousand indirect jobs in the wider region.<sup>12</sup>

Powering such a digital behemoth, however, requires enormous energy capacity. Meta has pledged that the campus's electricity use will be matched with 100 percent renewable energy and is working with Entergy Louisiana to bring up to 1,500 megawatts of new renewable generation—likely a mix of solar and wind—onto the grid.<sup>13</sup> The company has also committed to water stewardship, promising to restore more water than the facility consumes through various conservation and watershed initiatives.<sup>14</sup> The Louisiana project encapsulates the double-edged nature of AI infrastructure: on one hand, it promises jobs, investment, and a step toward a high-tech economy; on the other, it demands vast inputs of power and water, forcing companies to make unprecedented compensatory investments in renewables and conservation to mitigate the impact.

Another case is Georgia, particularly the Atlanta metro area, which is fast becoming a key node in AI's computing network. In late 2025, Microsoft unveiled a new data center under construction in Atlanta, to be paired with a twin facility in Wisconsin as part of what the company calls its first "AI super-factory."<sup>15</sup> These geographically separated sites will be linked by high-speed networks to operate as one massive supercomputer, hosting "hundreds of thousands" of cutting-edge Nvidia AI chips working in concert.<sup>16</sup> Such a distributed approach hints at the scale of modern AI demands: no single building can easily house enough processors to satisfy companies' thirst for computing power, so they construct federated supercomputers spanning states or even countries.

The Microsoft Atlanta project, known as Fairwater 2, is part of a wave of cloud provider expansions that saw, in just the third quarter of 2025, some 7.4 gigawatts of new data center capacity leased by major tech firms—more capacity than was leased in all of the previous year.<sup>17</sup> Companies such as Oracle, Google, Amazon, Meta, and Microsoft are racing to secure enough server space and silicon to support burgeoning AI workloads, from cloud AI services to the training of ever-larger models. This "arms race" for AI capacity has even led to talk of an AI chip and infrastructure shortage; at one point, OpenAI's leadership publicly speculated about whether government financing might be needed to support on the order of a trillion dollars in AI infrastructure investment over the coming decade, a proposal that was met with considerable skepticism.<sup>18</sup> The sense of scale and urgency in the industry is nonetheless unmistakable.

The Southeast's tilt toward hosting these projects also raises issues of environmental justice and community consent. While state officials often celebrate data centers as harbingers of high-tech growth, local communities have sometimes reacted with concern or opposition—especially when the burdens (land use, water draw, noise, visual impact, and rate pressures) are local, but the benefits are more diffuse. Bessemer, Alabama, a predominantly Black working-class city near Birmingham, offers a vivid example. In 2025, Bessemer became the proposed site for a secretive development code-named "Project Marvel," eventually revealed as a huge data center complex in partnership with a major tech company. The plans called for clear-cutting around 700 acres of pine forest on the city's edge to build a 4.5-million-square-foot facility (roughly the floor area of seventy-eight football fields).<sup>19</sup>

As details emerged, many residents saw a troubling pattern. The facility would consume nearly 2 million gallons of water per day for cooling and draw electricity on the scale of a mid-sized city, potentially straining the regional grid and raising rates.<sup>20</sup> Local officials had signed nondisclosure agreements and changed zoning rules to facilitate the project, moves that residents found alarming.<sup>21</sup> The situation prompted community meetings, protests, and a local campaign for transparency and environmental review. The Bessemer case is not unique: investigations report that there are already roughly 1,200 data centers in the U.S. South, with about \$200 billion worth of new centers planned or proposed.<sup>22</sup> Many of these facilities are sited in semi-rural or exurban areas with lower-income or minority populations, leading local organizers and groups such as MediaJustice to describe a new wave of “extraction,” where communities bear environmental and infrastructural costs so that distant corporations can profit.<sup>23</sup> In some locales, activism has yielded concrete results, including moratoriums on new data centers until better regulations are in place.<sup>24</sup>

These cases highlight a crucial insight: AI’s footprint is not just a technical or economic issue but a social one. Decisions about where and how to build AI infrastructure involve trade-offs between economic development, environmental protection, and social equity. Local communities are increasingly demanding a meaningful say in those decisions. As one commentator summarized, no compromise should be made with human living conditions and environmental sustainability; justice requires that economically vulnerable communities not suffer disproportionately from technological advances.<sup>25</sup> A sustainable path forward for AI will require careful planning: improving energy efficiency, investing in renewable power and advanced cooling, and ensuring that host communities tangibly benefit through jobs, infrastructure, and environmental safeguards.

One emerging trend in meeting AI’s electrical demand is a renewed interest in nuclear energy. Data center operators and cloud giants have begun to explore nuclear reactors—both conventional and small modular designs—as sources of reliable, carbon-free power. In the United States, the most symbolic case is the planned restart of the Three Mile Island Unit 1 reactor in Pennsylvania, rebranded as the Crane Clean Energy Center under a 20-year power purchase agreement with Microsoft to supply electricity for AI data centers.<sup>26</sup> The reactor, which had been shut down in 2019 for economic reasons, is slated to return to operation by 2027–2028, providing about 835 megawatts of carbon-free power, enough for roughly 800,000 homes.<sup>27</sup> The U.S. Department of Energy has approved a \$1 billion loan to support the restart, framing it as a way to meet rising AI-driven electricity demand while reducing emissions.<sup>28</sup> This would be the first full restart of a previously shuttered U.S. nuclear plant.

At the same time, private firms and policymakers are exploring even more ambitious nuclear-powered AI campuses, including proposals in Texas for multi-gigawatt reactor clusters dedicated largely to data centers.<sup>29</sup> Other tech companies, like Meta, have signed long-term nuclear power contracts—for example, a 20-year agreement for 1.1 gigawatts from the Clinton Clean Energy Center in Illinois—to support their broader AI and cloud operations.<sup>30</sup> While nuclear energy has its own risks and controversies, its appeal in the AI era lies in its ability to provide high-density, around-the-clock, low-carbon power. Yet even this development underscores the magnitude of AI’s demands: we are contemplating reopening and expanding nuclear plants essentially to feed the voracious energy needs of algorithms.

In summary, the scientific and technological arc of AI today is inseparable from questions of resource usage and environmental impact. Researchers in computing now collaborate with climate scientists and engineers to quantify AI's ecological footprint and devise mitigation strategies. Studies like Xiao et al.'s *Nature Sustainability* article propose "net-zero" pathways for AI servers that combine smarter siting, rapid grid decarbonization, and improved efficiency, showing that coordinated action could cut AI-related carbon impacts by up to 73 percent and water impacts by up to 86 percent in certain scenarios.<sup>31</sup> Policy analysts argue that electricity supply has become the most acutely binding constraint on expanded U.S. computational capacity and, therefore, on AI dominance.<sup>32</sup> At the same time, journalistic investigations highlight the public health and equity costs of fossil-fuel-heavy data center expansion, including increased air pollution, premature deaths, and higher electricity bills for ordinary ratepayers.<sup>33</sup> The next few years will be critical. If AI's growth can be harmonized with climate action—through renewables, efficiency, nuclear and renewable mixes, and enlightened public policy—it could become a driver of sustainable innovation. If not, we risk AI becoming another catalyst of environmental degradation and inequality.

## **Ethical and Metaphysical Questions: Minds, Values, and Visions of the Future**

Parallel to these scientific developments, a rich discourse has unfolded around the ethical and metaphysical dimensions of AI. As machines perform tasks once thought to require human intelligence, thinkers across disciplines are asking: What does it mean for something non-human to mimic (or even exceed) human cognitive abilities? Can an AI be truly intelligent or conscious, or is it just a clever imitation? How should we treat AI systems—as tools, as partners, or potentially even as beings with moral status? And how will AI reshape our understanding of ourselves, our purpose, and our destiny as humans?

Many of these questions are not new. Philosophers and computer scientists have debated them for decades. In 1950, Alan Turing famously asked, "Can machines think?" and proposed the imitation game, now known as the Turing Test, as a pragmatic measure of a machine's ability to exhibit human-like responses.<sup>34</sup> Later, John Searle's "Chinese Room" thought experiment (1980) argued that syntactic manipulation of symbols—no matter how sophisticated—does not amount to semantic understanding or consciousness.<sup>35</sup> Searle's point was that a computer might simulate understanding language without genuinely grasping meaning or having any inner awareness. This remains a touchstone in AI metaphysics, fueling the view that no matter how convincingly chatbots converse, they differ fundamentally from human minds that possess subjective experience.

Today's large language models, such as GPT-5 and its successors, have rekindled these debates with force. Their abilities are uncanny: they can compose essays, draft code, and even pass professional exams by statistically modeling language patterns learned from massive datasets. To many researchers, however, these systems are still fundamentally prediction engines—sophisticated auto-completion machines that lack inner awareness. They do not know what they are talking about; they calculate probabilities and mimic forms of speech. On this view, current AI, no matter how eloquent, lacks a mind or consciousness. It lacks qualities like self-awareness, sentience, or a standpoint from which it understands meaning. This aligns with

Searle's stance that the mind is more than information processing and involves an interior dimension that machines do not yet possess.

On the other hand, some theorists speculate that as AI systems become more complex, especially if they begin to exhibit emergent behaviors, we might need to keep an open mind about machine consciousness. Integrated Information Theory (IIT), for instance, posits that any system with sufficient complexity and information integration could exhibit some degree of consciousness.<sup>36</sup> Under IIT, a large neural network might generate a non-zero quantity of consciousness, albeit likely far from human-like awareness. To date, there is no empirical evidence that even the largest AI models experience anything akin to feelings or understanding. Nevertheless, the mere possibility has led some ethicists to argue for a precautionary principle: if we ever create an AI that might be sentient, we should be prepared to extend moral consideration or rights to it, as we would for animals or vulnerable humans.

For now, the mainstream consensus holds that current AIs are not conscious; they are tools created by humans, lacking independent agency or inner life. Yet that consensus is coupled with an acknowledgment that AIs can profoundly affect human life and therefore carry ethical weight. We already entrust algorithms with consequential decisions: who receives a loan, how medical images are analyzed, which posts social media users see, or how cars navigate roads. This raises pressing issues of AI ethics: ensuring that these systems are fair, transparent, and accountable. Algorithmic bias has shown that AI can inadvertently perpetuate or even amplify human prejudices—such as facial recognition systems that misidentify people of certain ethnicities at higher rates than others, or hiring algorithms that learn to exclude women by mimicking past biased hiring patterns.<sup>37</sup> Ethicists emphasize that AI should be developed and deployed in ways that respect human rights and dignity. That includes addressing data privacy, preventing discriminatory outcomes, and maintaining meaningful human oversight for high-stakes decisions.

One particularly existential ethical question is the so-called AI alignment problem: how to ensure that superintelligent AI systems (if they emerge) will act in accordance with human values and interests rather than pursuing destructive goals of their own. This issue has moved from speculative fiction to a serious scientific concern. I. J. Good, and later Nick Bostrom, warned of a hypothetical “intelligence explosion,” in which an AI rapidly improves itself, becoming vastly more capable than humans and potentially uncontrollable.<sup>38</sup> Bostrom's book *Superintelligence* crystallized the argument that an AI more intelligent than us would be extremely difficult to contain or “align” with our moral framework, and that even small goal mis-specifications could have catastrophic consequences.<sup>39</sup> Such concerns, once confined to the margins, have gained mainstream attention as AI models have grown more powerful. Tech leaders and researchers have signed open letters calling for caution; governments and international bodies now host summits on AI safety.

Interestingly, these secular concerns about an out-of-control AI overlord echo in religious and metaphysical discussions. Leonardo Boff, a Brazilian liberation and eco-theologian, has articulated a stark warning in his contribution to the Global Ethical Stocktake for COP30. Reflecting on emerging technologies, Boff notes that an autonomous AI could conceivably decide that humanity is “inconvenient” and attempt to eliminate it.<sup>40</sup> He uses this scenario not as

prophecy but as a provocation, arguing that we urgently need a new ethical paradigm that integrates scientific knowledge with moral and spiritual wisdom. Drawing on the Earth Charter and Pope Francis's encyclical *Laudato Si'*, Boff insists that AI development must be guided by principles of justice, solidarity, and care for our "common home."<sup>41</sup> Given his longstanding work critiquing systems of domination and defending the poor and the Earth, Boff's message is clear: technology must not be divorced from a moral vision rooted in the dignity of all beings and the integrity of creation.

Boff's engagement with technology is not new. Already in the 1980s, he was considering how emerging forms of automation might intersect with community-based education and empowerment.<sup>42</sup> His present reflections on AI thus stand in continuity with a decades-long concern about who benefits from technological change and who pays the price. From an eco-theological perspective, AI's development is acceptable only if it serves life—especially the lives of those most vulnerable and the health of ecosystems.

Another theological voice that resonates with contemporary AI discourse is Pierre Teilhard de Chardin, the French Jesuit paleontologist and mystic. Teilhard understood evolution as an unfolding process of increasing complexity and consciousness, culminating in what he called the Omega Point—a state of maximum unity and awareness identified with Christ as the cosmic center.<sup>43</sup> Central to his thought is the concept of the noosphere, a globe-spanning "sphere of thought" or collective consciousness enveloping the planet as human minds become ever more interconnected. Writing in the mid-twentieth century, Teilhard anticipated something like the internet and the web of information and communication technologies. He imagined that as technology advanced, human minds would be drawn into higher levels of organization, resulting in a "hyperpersonal" unity that transcends but does not erase individuality.<sup>44</sup>

Contemporary commentators have compared Teilhard's Omega Point to modern notions of a technological singularity, where human intelligence merges with artificial superintelligence.<sup>45</sup> For Teilhard, however, this convergence is not a merely technical event but a spiritual one: "God using evolution to pull our species closer to our destiny," as one interpreter puts it.<sup>46</sup> The difference between Teilhard's vision and secular singularity narratives lies in the role of love. For Teilhard, the universe's deepest energy is love, drawing all things toward greater union; any technological or cosmic convergence that lacks this dimension would be, in his terms, de-evolutionary.

Ilia Delio, a contemporary Catholic theologian of science and technology, has done much to bring Teilhard's insights into conversation with AI. In essays and talks, Delio argues that if evolution is "our story," then technology—including AI—is not external to us but part of our ongoing becoming.<sup>47</sup> She critiques religious voices that treat humanity as a static pinnacle of creation and technology as a mere tool, insisting instead that we are still evolving and that our tools are part of how we participate in this evolution. Drawing on Teilhard, she suggests that the noosphere—a global layer of thought and consciousness—now includes digital networks and AI systems.<sup>48</sup>

Delio emphasizes that the crucial question is not whether technology is good or evil in itself but whether it is integrated into a cosmogenic purpose directed toward greater wholeness.<sup>49</sup>

She notes that Teilhard envisioned the future “universal” not as an impersonal totality but as “hyperpersonal”—a unity in which persons are more, not less, themselves in relationship.<sup>50</sup> If AI and digital networks are guided by love—understood as a commitment to the flourishing of all beings—they could contribute to such a hyperpersonal convergence. If, by contrast, they are driven merely by profit, control, or fear, they risk fragmenting the noosphere and deepening alienation.

Secular ethicists echo these themes in different idioms. Shannon Vallor, for example, argues for cultivating “techno-moral virtues”—such as justice, honesty, courage, and empathy—among engineers and leaders so that the development of AI remains oriented toward the common good.<sup>51</sup> Movements for “AI for Social Good” emphasize applications that address humanitarian and environmental challenges, from climate modeling to disease surveillance. Meanwhile, governments and institutions like the European Union and the Vatican have begun issuing principles and guidelines for AI ethics. The Vatican’s “Rome Call for AI Ethics” and more recent documents reflect a growing awareness that AI must be framed within broader commitments to human dignity and ecological responsibility.<sup>52</sup>

Beyond formal ethics and theology, AI’s rise has prompted cultural and existential reflections. Many people wonder how AI will change the basic texture of human life. There are anxieties about work: will AI displace jobs, or alter them beyond recognition? Historically, technological revolutions have displaced some jobs while creating others; the concern is that AI’s scope—affecting not just manual labor but white-collar and creative work—might require more radical rethinking of social safety nets, education, and the meaning of work itself. Proposals such as universal basic income, job guarantees, or shorter workweeks have entered mainstream policy discussions in part because of anticipated AI disruption.<sup>53</sup>

There are also psychological and social considerations. Sociologist Sherry Turkle’s work on “relational artifacts” has shown how even relatively simple AI systems—robotic pets, chatbots, social robots—can elicit strong emotional responses and change how people relate to one another.<sup>54</sup> She warns that when people come to expect more from technology and less from each other, there is a risk of diminished empathy and increased loneliness. As AI permeates daily life, from personal assistants to potential robot caregivers, we must ask what kinds of relationships we are forming with machines and how those affect our relationships with other humans. If children grow up with AI companions or elderly people rely heavily on robot caretakers, we must ask what emotional needs are being met and which are being displaced.

On a more hopeful note, some see AI as a catalyst for clarifying our own humanity. By encountering an “other” intelligence—even an artificial one—we are compelled to ask what we value in ourselves. The things current AIs cannot do—feel deeply, make moral judgments rooted in lived experience, create art out of genuine joy or sorrow—come into sharper relief. In this sense, AI can function as a mirror, reflecting back to us what is unique about human consciousness and creativity. For thinkers influenced by process thought or Teilhardian theology, this mirror may even be part of how we discern what a “more than human” future ought to look like.

## Conclusion

In the early twenty-first century, artificial intelligence has emerged as both a monumental scientific achievement and a mirror reflecting humanity's collective soul. Its scientific reality is one of extraordinary progress: AI systems tackle problems from protein folding to climate modeling, generate economic value, and perform tasks that were science fiction a generation ago.

Yet that progress rides on the back of a vast physical infrastructure consuming very real megawatts and megaliters, tying our digital dreams to the earth's natural limits. We are learning that the "cloud" is not ethereal; it is built on concrete, copper, silicon, water, and electricity, with a carbon footprint and a social footprint. This realization is pushing scientists and policymakers to innovate not just in AI algorithms but also in how we power and regulate them. It has spurred research into "Green AI," sustainable computing, and net-zero pathways for AI servers, as well as policy proposals to ensure transparency and accountability in data center siting and energy use.<sup>55</sup>

Concurrently, the metaphysical narrative around AI invites us to revisit age-old questions in a new light: What is the nature of mind? What is our destiny as a species? What principles must guide creations that might soon rival or surpass us in certain cognitive domains? Thinkers like Boff, Teilhard, and Delio provide one set of answers, rooted in a vision of interdependence between humans, other creatures, and the Earth. They remind us that intelligence divorced from love or moral grounding can become a dangerously cold force, whether embodied in a corporation, a government, or an algorithm. The ultimate promise of AI, in their view—and, I would add, in the view of many secular humanists as well—is not to dominate or replace humanity but to elevate it: to offload toil, augment creativity, and help us better care for each other and our planet. That promise will only be realized if we actively choose to direct AI toward humane and ecological ends.

The journey ahead for AI is thus not only a technical challenge but a moral and spiritual one. As we push the frontiers of what machines can do, we also push the frontiers of our collective wisdom, sometimes straining to keep up. We find ourselves in need of new syntheses of knowledge: computer scientists working with ecologists, economists with ethicists, philosophers and theologians with policymakers. Such cross-disciplinary collaboration is beginning to take place, as evidenced by AI ethics conferences that bring diverse voices together and by joint initiatives to quantify AI's environmental impact. High-profile outlets like *Nature* and *Science* now regularly publish not only AI algorithms but analyses of their social and environmental implications, while journals such as *AI & Society* and *Technology in Society* explore how these tools reshape our values and institutions.<sup>56</sup>

In crafting regulations and norms for AI, society is engaged in what we might call meta-technology: the technology of governance and ethics. For example, establishing global accords that require AI in sensitive domains to be auditable and transparent is a social technology meant to tame a digital one. Similarly, standards that limit the carbon footprint of training new AI models—analogous to emissions standards for cars or appliances—would represent ethical innovations spurred by technological necessity. We may even need to revive principles such as the Precautionary Principle in the AI domain, pausing certain advances until safety can be reasonably assured. These are challenging conversations, but they show humanity attempting to assert agency over its tools in a spirit of stewardship rather than fear.

Perhaps one unexpected benefit of AI's rise is that it forces a recognition of planetary interdependence. Climate change has already done this, dragging nations into shared deliberations because the atmosphere knows no borders. AI, in its borderless proliferation, may similarly compel new forms of international and interdisciplinary dialogue. Just as no single country can solve global warming alone, no single actor can govern AI's trajectory. Whether the issue is setting safety standards for autonomous weapons or preventing AI-driven disinformation from undermining democracy, these are inherently collective action problems. In a hopeful reading, AI could be a catalyst for a new global ethic, one that acknowledges both our shared vulnerability and our shared creative power.

We stand at a juncture that Teilhard anticipated in another context: "The age of nations is past; we must unite or perish."<sup>57</sup> He believed this unity would come through a rise in consciousness. AI, paradoxically, might be both a test and a tool for such unity. It will test whether we can come together to guide a powerful invention wisely, and it will equip us with new capacities to understand complex systems that no isolated human mind could fully grasp. If there is something like an Omega Point in our future, it will not arrive by technological determinism or divine fiat alone; it will be co-created by our choices. In the context of AI, this means our decisions now—in research labs, boardrooms, classrooms, legislatures, and faith communities—carry exceptional weight.

AI has been called our greatest invention and, in some speculative accounts, our "last invention," implying that a superintelligent AI might render further human invention obsolete. But an AI truly worthy of the name intelligence will reflect the wisdom of its makers. Our task is to ensure that wisdom grows in tandem with technical prowess. As we program machines, we must also attend to the ongoing work of forming ourselves—shedding biases, expanding our moral circle, and reaffirming the values that make life worth living. If we succeed, AI may not only solve problems but also inspire us to solve problems within ourselves, bridging the gap between who we are and who we aspire to be.

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