

AI as Power, Dignity, and Formation

Human Becoming in the Age of Artificial Intelligence

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Keywords

Artificial Intelligence; *Bildung*; Human Formation; Human Flourishing; Attention; Human Becoming; AI Ethics; Pope Leo XIV; Karen Hao; Enrique Dans; Technological Civilization

Epigraph

“Education is the point at which we decide whether we love the world enough to assume responsibility for it.”

— Hannah Arendt

Foreword

The emergence of artificial intelligence has generated no shortage of commentary. Much of it has focused on capabilities, risks, governance, regulation, economic disruption, or geopolitical competition. These discussions are important. They address questions that societies must confront as increasingly powerful computational systems become embedded in institutions, markets, and everyday life.

Yet there is a sense in which the most consequential question may still be waiting to be asked.

This essay began as a response to an exchange between two distinct voices. On one side stands Enrique Dans, whose critique of Pope Leo XIV’s encyclical *Magnifica Humanitas* insists that artificial intelligence must be understood as a structure of power. Dans rightly argues that discussions of AI become inadequate when they fail to name the institutions, corporations, and economic arrangements through which technological power is exercised. Artificial intelligence is not an abstraction. It is built, financed, deployed, and governed by identifiable actors operating within identifiable systems.

On the other side stands Pope Leo XIV, whose encyclical directs attention toward questions that transcend political economy. *Magnifica Humanitas* asks what becomes of human dignity, responsibility, conscience, wisdom, and embodiment in a world increasingly mediated by artificial intelligence. It reminds us that technological questions are never merely technical. They are also anthropological. They concern our understanding of what a human being is and what constitutes human flourishing.

The present essay accepts both of these concerns. It agrees with Dans that power matters. It agrees with Pope Leo that dignity matters.

Its central argument, however, is that another dimension deserves equal attention: formation.

The language of formation may initially seem unfamiliar within contemporary AI discourse. Current debates tend to focus on safety, alignment, transparency, accountability, fairness, and governance. These concerns are indispensable. Yet they often overlook a simpler reality. Artificial intelligence increasingly participates in the environments within which human beings learn, think, remember, imagine, communicate, and deliberate. It influences not only what people know but how they come to know; not only what they do but who they become.

To address this dimension, the essay turns to the tradition of *Bildung*, a concept associated with thinkers such as Wilhelm von Humboldt, Hegel, Gadamer, and others concerned with the cultivation of the human person. *Bildung* refers to more than education, training, or skill acquisition. It concerns the lifelong formation of judgment, character, imagination, responsibility, and wisdom. It asks not simply what a person can do, but who a person is becoming.

This perspective introduces a different way of thinking about artificial intelligence. Rather than viewing AI solely as a tool, a market force, or a policy challenge, we may begin to see it as a formative environment. Like schools, books, institutions, traditions, and technologies before it, AI participates in shaping the conditions under which human development occurs.

The question then changes. Instead of asking only:

What can AI do?

Or, **How should AI be governed?**

We must also ask:

What kinds of human beings are being formed through sustained participation in AI-mediated environments?

This question does not replace the others. It deepens them.

The pages that follow therefore proceed through three interrelated themes: power, dignity, and formation. The first examines AI as an infrastructure of power. The second considers the challenge AI poses to human dignity and flourishing. The third explores the implications of AI for *Bildung* and human becoming.

Together, these themes suggest that the future of artificial intelligence cannot be understood solely in technological, economic, or regulatory terms. The deeper issue concerns civilization itself.

The ultimate question is therefore not whether machines will become more intelligent. It is whether human beings will become wiser.

And that, perhaps, is the most important educational question of our time.

Abstract

Enrique Dans argues that Pope Leo XIV correctly recognizes artificial intelligence as an emerging structure of power but fails to identify the institutions through which that power is exercised. His critique redirects AI ethics toward political economy, corporate concentration, labor conditions, and democratic accountability. Yet another dimension remains insufficiently explored. Beyond questions of power and governance lies the question of formation.

This essay argues that contemporary debates about artificial intelligence unfold across three interconnected levels. The first concerns power: who owns, governs, and benefits from AI systems. The second concerns dignity: what AI means for human flourishing, responsibility, embodiment, and moral agency. The third concerns formation: what kinds of human beings are being shaped through sustained participation in AI-mediated environments.

Drawing upon the tradition of *Bildung*, as developed by Wilhelm von Humboldt, Hegel, Gadamer, and later thinkers concerned with human development, the essay proposes that AI should be understood not merely as a technology or infrastructure but as a formative environment. Artificial intelligence increasingly influences attention, memory, judgment, imagination, and the conditions under which inquiry itself takes place.

The central claim is that the deepest question of the AI age may not be technological, economic, or even ethical. It may be educational in the broadest and most profound sense of the word. The future significance of AI will depend not only on its capabilities or governance, but on whether human beings continue to cultivate the capacities that make intelligence meaningful: wisdom, responsibility, discernment, conscience, and participation in a shared world.

Introduction

Enrique Dans' response to Pope Leo XIV's *Magnifica Humanitas* raises an important challenge. The Pope, he argues, has correctly recognized that artificial intelligence is not merely a new technology but a new architecture of power. Yet just when the analysis should become institutional critique, it retreats into abstraction. It speaks of concentration without naming concentrators, of platforms without naming platform owners, of technological power without identifying those who wield it.

Dans' criticism is both fair and necessary. In an age when a handful of corporations increasingly shape the infrastructures through which information flows, labor is organized, attention is captured, and public discourse unfolds, discussions of AI that avoid questions of ownership and accountability risk becoming morally eloquent but politically toothless.

Yet there is another possibility. What if *Magnifica Humanitas* is attempting to address a question that lies deeper than political economy, even while remaining inseparable from it? What if the encyclical's concern is not only who controls artificial intelligence or who profits from it, but what artificial intelligence is doing to the human beings who increasingly live, work, learn, remember, imagine, and deliberate in its presence?

This essay argues that the contemporary debate over AI is unfolding across at least three distinct but interconnected levels.

The first concerns **power**.

The second concerns **dignity**.

The third concerns **formation**.

My contention is that while the first two questions are essential, the third may ultimately prove the most consequential. Power determines who controls the tools. Dignity concerns how those tools affect human flourishing. Formation concerns who we become through our relationship with them.

Artificial intelligence is not merely an economic technology. Nor is it merely a moral challenge. It is also a formative environment. It participates in the shaping of perception, attention, memory, judgment, and imagination. It influences not only what we know, but how we come to know; not only what we do, but who we are becoming.

The deepest question of the AI age may therefore be neither technological nor economic. It may be educational in the deepest sense of the word.

I. AI as an Infrastructure of Power

One of the most important contributions of Enrique Dans' essay is its insistence that artificial intelligence should not be understood primarily as a tool.

Tools are instruments used by individuals to accomplish specific purposes. A hammer drives a nail. A microscope magnifies a specimen. Their significance lies principally in what they enable a user to do.

Artificial intelligence increasingly occupies a different category. Contemporary AI systems function less as isolated tools than as infrastructures. They mediate access to information, shape patterns of attention, influence economic decision-making, organize labor, structure communication, and increasingly participate in the production of social reality itself.

This shift from tool to infrastructure is crucial.

Infrastructures are rarely neutral. Roads shape commerce. Electrical grids shape industry. Communication networks shape culture. Digital infrastructures shape not only behavior but the field of possibilities within which behavior occurs.

AI is rapidly becoming such an infrastructure.

Search engines determine what information appears visible. Recommendation systems influence cultural consumption. Generative systems increasingly participate in writing, research, education, software development, administration, and public communication. Large language models function not merely as repositories of information but as mediators of inquiry itself.

This is why Dans' critique resonates with the work of Shoshana Zuboff, Timnit Gebru, Kate Crawford, and Karen Hao. The common insight shared by these thinkers is that artificial intelligence cannot be understood apart from power.

The question, then, is not merely what AI can do.

It is who builds it, who controls it, whose interests it serves, and under what conditions it enters the lives of others.

II. Naming Power

Dans' strongest criticism of *Magnifica Humanitas* concerns what might be called the problem of unnamed power.

The encyclical speaks eloquently of concentration, technological domination, and the dangers of excessive control. Yet it largely refrains from identifying the institutions through which such power is exercised. For Dans, this restraint risks obscuring the concrete realities of the present moment.

Power is never merely abstract.

It operates through organizations, incentives, infrastructures, contracts, markets, regulations, and institutions. Artificial intelligence does not emerge spontaneously from technological inevitability. It is developed, financed, deployed, and governed by identifiable actors operating within identifiable economic systems.

The political economy of artificial intelligence reveals itself not only through ownership but also through labor. Much of AI's apparent magic depends upon forms of human work that remain largely invisible to public view: data annotation, content moderation, model evaluation, safety review, infrastructure maintenance, and other forms of labor distributed across complex global supply chains.

Karen Hao's *Empire of AI* and Kate Crawford's *Atlas of AI* have demonstrated that contemporary AI systems are deeply material enterprises. They depend upon human labor, energy consumption, mineral extraction, computational infrastructure, and geopolitical arrangements often hidden beneath narratives of innovation and progress.

This raises an important question. If AI is to serve humanity, where precisely is human dignity located within the systems that make AI possible?

The question becomes even more pressing when viewed through the lens of economic distribution. The central issue is no longer simply whether AI will eliminate jobs. Rather, it concerns the allocation of value generated through automation and increased productivity.

When AI systems increase efficiency and profitability, who benefits? Workers? Communities? Public institutions? Or primarily investors and shareholders?

These are not merely economic questions. They are questions about justice, responsibility, and the social purpose of technological development.

Dans is therefore correct to insist that discussions of AI must engage the realities of ownership, labor, and value distribution. Yet power, important as it is, remains only the first layer of the inquiry.

The deeper question concerns the human beings living within these emerging structures of power.

III. The Reconstruction of Attention

One of the most significant insights emerging from contemporary critiques of digital technology is that the central struggle is no longer primarily over information. It is over attention.

For much of the twentieth century, democratic societies assumed that the principal challenge was ensuring access to information. The ideal was an informed citizenry capable of rational deliberation within a shared public sphere. More information was presumed to produce better decisions, stronger institutions, and more robust democratic life.

The digital age has complicated that assumption. The problem is no longer scarcity of information but abundance.

What is scarce is attention.

Artificial intelligence enters this landscape not simply as a producer of information but as a manager of attention. Increasingly, AI systems participate in determining what becomes visible, what remains invisible, what is amplified, what is ignored, and what forms of discourse are rewarded. They influence not only what people know but what they notice.

This is why Enrique Dans is correct to emphasize the distinction between misinformation and what might be called attention architecture. The deeper problem is not merely the circulation of falsehoods. It is the design of environments that reward emotional activation, outrage, speed, certainty, and continual engagement.

Byung-Chul Han has argued that contemporary digital culture produces an “infocracy” in which the abundance of information paradoxically undermines the conditions necessary for wisdom and judgment. Jaron Lanier has warned that social media architectures systematically shape behavior through incentives largely invisible to their users. Jonathan Haidt has documented the consequences of these systems for psychological well-being, particularly among younger generations.

Artificial intelligence intensifies these dynamics. It does not merely distribute content more efficiently. It personalizes, predicts, anticipates, and increasingly co-creates the informational environments within which individuals think and act.

The result is a subtle but profound shift. The question is no longer simply whether information is true or false.

The question becomes whether the conditions under which human beings encounter information support reflection, discernment, and understanding.

A democratic society depends not merely upon informed citizens but upon attentive citizens. It requires individuals capable of sustained reflection, tolerance for ambiguity, intellectual humility, and the willingness to engage perspectives other than their own.

These capacities are not automatic. They are cultivated.

The challenge posed by AI therefore extends beyond accuracy and bias. It concerns the ecology of attention itself. The issue is not merely what AI tells us. It is what AI teaches us to notice, ignore, desire, fear, remember, and forget.

At this point, the discussion begins to move beyond questions of power toward questions of human dignity.

IV. Beyond Power: Dignity and the Human Person

This is where Pope Leo XIV's intervention becomes particularly important.

Much contemporary discussion of artificial intelligence focuses on regulation, competition, safety, productivity, and governance. These are indispensable concerns. Yet they tend to assume that the primary question is how AI should be managed.

Magnifica Humanitas asks a different question.

What is the human being whose interests these systems are meant to serve?

This may seem obvious, but it represents a profound shift in perspective. Before we can determine how technology ought to function, we must ask what constitutes human flourishing. Before we can decide what AI should optimize, we must ask what is worth optimizing.

The encyclical repeatedly returns to themes often absent from contemporary technology discourse: conscience, embodiment, responsibility, wisdom, relationship, vulnerability, and moral agency. These themes reflect a concern that cannot be reduced to economics or governance. They concern the nature of the human person.

The Pope's argument is not that AI is inherently dangerous because it is powerful. Rather, it is that AI risks becoming dangerous when societies forget the distinction between intelligence and wisdom, information and understanding, simulation and experience.

Human beings do not merely process information. They inhabit worlds of meaning. They form relationships. They suffer. They remember. They mature through experience. They assume responsibility for the consequences of their actions. They participate in traditions, communities, and histories that shape their identities.

Artificial intelligence, however sophisticated, does none of these things.

This distinction matters because modern societies increasingly evaluate human capacities through technological metaphors. We speak of processing information, storing memories, optimizing performance, and enhancing cognition. Such language can be useful, but it becomes problematic when the metaphor begins to replace the reality.

Human beings are not information-processing systems with emotions attached. They are embodied, relational, meaning-seeking creatures whose intelligence emerges within a wider field of experience.

This is why the question of dignity cannot be separated from the question of technology. The issue is not simply whether AI works. The issue is whether our understanding of ourselves begins to shrink in response to the technologies we create.

A society that mistakes intelligence for wisdom, efficiency for flourishing, or simulation for understanding risks losing sight of dimensions of human life that cannot be quantified, optimized, or automated.

At this point, the discussion naturally opens onto a deeper question still: not simply what human beings are, but how human beings become who they are.

V. Formation versus Training: *Becoming Human*

The distinction between formation and training may be one of the most important yet least discussed dimensions of the contemporary AI debate. Modern societies often conflate the two.

Training develops competencies. It cultivates skills that can be measured, assessed, standardized, and applied to specific tasks. Training asks what a person can do.

Formation [Self-development, *Bildung*] concerns something different.

It addresses judgment, character, imagination, responsibility, wisdom, and the capacity to participate meaningfully in a shared world.

Formation asks who a person is becoming.

The distinction is not merely educational. It is civilizational.

A society can produce highly trained individuals while neglecting the cultivation of mature persons. It can generate technical expertise without fostering wisdom. It can increase

efficiency while diminishing judgment. It can optimize performance while impoverishing meaning.

Artificial intelligence brings this distinction into sharp relief.

AI systems are extraordinarily effective training technologies. They can accelerate learning, provide feedback, personalize instruction, automate routine tasks, and dramatically increase access to information.

These are genuine achievements. Yet none of these capabilities automatically contribute to formation. Knowing more is not the same as understanding more.

Performing more efficiently is not the same as exercising better judgment. Producing more content is not the same as cultivating wisdom.

The danger is subtle. AI may encourage the assumption that intelligence consists primarily in acquiring, organizing, and deploying information. Yet the most important dimensions of human development often emerge through processes that resist acceleration: reflection, dialogue, struggle, uncertainty, contemplation, friendship, responsibility, and lived experience.

Formation – as defined here – occurs not simply through the accumulation of knowledge but through encounters that transform the self.

This insight lies at the heart of the *Bildung* tradition.

From Humboldt onward, *Bildung* has referred to the cultivation of the whole person rather than the development of isolated competencies. It concerns the formation of judgment, sensibility, imagination, and character through engagement with the world.

Viewed from this perspective, the deepest educational question raised by artificial intelligence is not how effectively it trains.

It is whether it contributes to the formation of human beings capable of wisdom, responsibility, and freedom.

That question leads directly to the tradition of *Bildung* itself, and to the possibility that AI is not merely a technological innovation but a formative environment participating in the ongoing shaping of human becoming.

VI. AI and *Bildung*

To understand what is ultimately at stake in the age of artificial intelligence, it is helpful to turn to a tradition that long predates computers, algorithms, and digital networks. The German concept of *Bildung* emerged in response to a different historical transformation: the rise of modernity itself. Yet its central concern remains strikingly relevant.

***Bildung* has no exact English equivalent.** While often translated as *formation*, *self-cultivation*, or *education*, it refers to something broader and deeper than any of these terms alone. *Bildung* concerns the lifelong shaping of the whole person through encounters with

knowledge, culture, experience, responsibility, and community. It is not primarily about training, credentialing, or the acquisition of competencies. Rather, it concerns the cultivation of judgment, character, imagination, wisdom, and the capacity to participate meaningfully in a shared world. In this sense, *Bildung* asks not merely what a person knows or can do, but who that person is becoming.

For Wilhelm von Humboldt, *Bildung* involved the unfolding of the whole person through encounters with culture, language, knowledge, and experience. Human development was not a matter of accumulating information but of enlarging one's capacity to inhabit reality. Education, in this view, was not preparation for life. It was life.

Hegel extended this insight by understanding *Bildung* as a developmental process through which consciousness becomes increasingly adequate to reality. Human beings are not born complete. They become themselves through a series of encounters, tensions, failures, recognitions, and transformations. Formation is therefore not merely acquisition. It is transformation.

Gadamer later emphasized another dimension of *Bildung*: openness. Genuine understanding requires the capacity to encounter what is other than oneself. Judgment develops not through the confirmation of existing beliefs but through a willingness to be challenged by experience. *Bildung* thus cultivates intellectual humility as much as knowledge.

Across these thinkers a common theme emerges. The goal is not simply to produce competent individuals. It is to cultivate persons capable of participating wisely and responsibly in a shared world.

This distinction becomes particularly important in relation to artificial intelligence.

Much contemporary discussion assumes that education is primarily concerned with information transfer and skill acquisition. From this perspective, AI appears as an extraordinary educational resource. It can explain concepts, answer questions, summarize texts, provide feedback, personalize instruction, and make vast quantities of information instantly accessible.

All of this is valuable.

Yet the tradition of *Bildung* reminds us that the deepest forms of learning involve more than information. They involve the formation of the learner.

The question is not merely whether AI helps us know more.

The question is whether it helps us become wiser.

This concern becomes even more significant when viewed through the work of thinkers who examined technology itself as a formative force.

Ivan Illich argued that tools are never simply instruments. They shape the forms of life available to those who use them. Some tools enhance autonomy, participation, and human flourishing. Others create dependency and diminish agency. The crucial issue is not

technological capability but the quality of human life that emerges in relation to a technology.

Albert Borgmann similarly suggested that technologies do not merely satisfy human purposes; they reorganize the contexts within which purposes are discovered. They alter habits of attention. They reshape relationships. They influence what people regard as meaningful, valuable, and real.

Artificial intelligence appears poised to become one of the most powerful such technologies ever created.

Its significance lies not only in what it can accomplish but in how it may reshape the conditions under which human beings think, learn, remember, imagine, and deliberate.

Bernard Stiegler pushed this insight even further. For Stiegler, technologies are always technologies of memory and attention. They participate in the formation of both individuals and cultures. Human beings are never formed in isolation from their technical environments. We become who we are through continuous interaction with the symbolic and technological systems that surround us.

From this perspective, artificial intelligence is not simply another tool added to an existing world. It is becoming part of the environment within which human formation occurs.

This observation returns us to the concern with responsibility.

Hans Jonas argued that technological civilization had created powers unprecedented in human history. The ethical challenge was therefore no longer confined to immediate actions and local consequences. Human beings now possessed the capacity to shape the conditions of life for future generations. Responsibility had to expand accordingly.

Artificial intelligence presents precisely this challenge.

The central question is not merely what these systems can do today. It is what kinds of human beings, institutions, and cultures they encourage over time.

Do they strengthen the capacities necessary for democratic life?

Do they deepen judgment?

Do they cultivate patience, reflection, and responsibility?

Do they support genuine understanding?

Or do they encourage dependence, distraction, superficiality, and the illusion of knowledge?

These questions cannot be answered solely through technical benchmarks, market analyses, or regulatory frameworks. They concern the quality of human becoming itself.

This is why the language of *Bildung* matters.

It provides a vocabulary capable of addressing dimensions of the AI revolution that are otherwise difficult to name. It reminds us that education is not merely training, that intelligence is not wisdom, and that information is not understanding.

Most importantly, it reminds us that every technological civilization ultimately expresses an answer to a deeper question:

What kind of human being does it seek to cultivate?

Artificial intelligence may be transforming the conditions under which that question is asked. But it cannot answer the question for us.

That responsibility remains irreducibly human.

VII. Human Becoming in an AI-Shaped World

If artificial intelligence is becoming part of the environment within which human formation occurs, then the question is no longer merely what AI is.

The question becomes what it is like to live with it.

This shift is important. Discussions of AI often remain focused on systems, capabilities, risks, markets, or regulations. Necessary as these concerns are, they can obscure a simpler reality: artificial intelligence increasingly enters the texture of everyday life. It becomes a companion in research, a partner in writing, a tutor in learning, an assistant in decision-making, and, for some, an interlocutor in reflection itself.

The significance of this development cannot be measured solely in terms of productivity or efficiency.

It concerns the subtle ways human beings come to relate to themselves through technological mediation.

Throughout history, cultures have formed themselves through conversations. Families, teachers, mentors, books, traditions, communities, and institutions have all functioned as mirrors through which individuals encounter themselves. Human beings become who they are through relationships that challenge, support, refine, and expand their understanding.

Artificial intelligence now enters this ancient process in a novel way.

Unlike books, it responds.

Unlike search engines, it converses.

Unlike databases, it can participate in extended inquiry.

This does not mean it possesses understanding in the human sense. Nor does it imply consciousness, wisdom, or moral agency. Yet its interactive character introduces a new dimension into the ecology of human reflection.

The significance of AI may therefore lie not only in what it knows but in how it shapes the conditions under which human beings come to know themselves.

This possibility invites both caution and curiosity.

On the one hand, AI can encourage passivity. It can create the illusion of understanding without the labor of inquiry. It can tempt users toward intellectual outsourcing, substituting generated answers for genuine reflection. Like any powerful technology, it can diminish capacities that are no longer exercised.

On the other hand, AI may also function as a catalyst for inquiry. Used skillfully, it can provoke questions, reveal assumptions, expose blind spots, suggest perspectives, and support forms of reflection that might otherwise remain inaccessible. In such cases, the value lies not in the answers produced but in the quality of attention brought to the encounter.

The distinction is crucial.

The most significant outcomes of dialogue with AI may not be informational but transformational.

The question becomes whether the interaction deepens awareness or merely satisfies curiosity; whether it expands perception or narrows it; whether it strengthens judgment or weakens it.

This is ultimately a question of practice.

A calculator does not determine whether mathematics is pursued intelligently. A library does not determine whether reading becomes wisdom. Likewise, artificial intelligence does not determine the quality of human becoming. The formative effects emerge through the manner of engagement.

This observation points toward a broader understanding of intelligence itself.

Human intelligence has never been an isolated property residing entirely within individual minds. It emerges within networks of language, culture, relationship, memory, and shared meaning. Thinking is often a collaborative achievement. Understanding develops through dialogue. Insight arises within fields of participation that exceed the individual.

Artificial intelligence enters these fields in complex ways. It may become part of what might be called an extended ecology of cognition: one more participant in the ongoing processes through which meaning is generated, interpreted, challenged, and revised.

Yet even here a distinction must be maintained.

AI may participate in processes of meaning-making without itself inhabiting meaning. It may support inquiry without itself inquiring. It may facilitate understanding without itself understanding.

The responsibility for judgment remains human. The responsibility for wisdom remains human. The responsibility for conscience remains human.

This is why the question of formation remains central. The issue is not whether AI becomes increasingly capable. The issue is whether human beings continue to cultivate the capacities that make capability meaningful.

Can we sustain attention in an age of acceleration?

Can we cultivate discernment amid abundance?

Can we preserve genuine dialogue within environments increasingly optimized for prediction?

Can we remain open to surprise, ambiguity, mystery, and transformation?

These questions point beyond technology toward a more fundamental concern.

Human beings are always becoming. The environments within which that becoming occurs matter profoundly. Artificial intelligence is rapidly becoming one of those environments.

Whether it contributes to human flourishing or diminishment will depend less on the technology itself than on the qualities of attention, responsibility, and wisdom that we bring to our relationship with it.

The future of AI is therefore inseparable from the future of human becoming. And that future remains, at least for now, an open question.

VIII. Conclusion: Power, Dignity, and Formation

Enrique Dans has performed an important service. He reminds us that artificial intelligence is not merely a technical achievement but a structure of power. AI systems are developed, financed, deployed, and governed within institutional arrangements that shape who benefits, who bears costs, and whose interests are served. Questions of ownership, labor, accountability, and democratic oversight are not peripheral to the AI debate. They are central to it.

Pope Leo XIV extends the inquiry further. *Magnifica Humanitas* asks us to consider not only the distribution of power but the nature of the human person whose interests technological systems are meant to serve. Its concern with dignity, conscience, embodiment, responsibility, and wisdom reminds us that the AI question cannot be reduced to economics or governance alone. Before we can decide what technology ought to do, we must ask what human flourishing requires.

Yet there is a third dimension that deserves equal attention.

The deepest challenge posed by artificial intelligence may concern neither power nor dignity in isolation, but formation. AI is increasingly becoming part of the environment within which human beings learn, think, remember, communicate, imagine, and deliberate. It participates, however indirectly, in the ongoing processes through which persons are shaped and cultures reproduce themselves.

The central issue is therefore not simply whether AI becomes more capable.

It is whether human beings continue to cultivate the capacities that make capability meaningful.

This is where the tradition of *Bildung* offers an indispensable perspective. It reminds us that the purpose of education is not merely the transmission of information or the acquisition of skills. It is the formation of persons capable of judgment, responsibility, imagination, and participation in a shared world. The measure of a society is not simply what it can produce, but what kinds of human beings it encourages its members to become.

Viewed from this perspective, artificial intelligence presents a challenge that is at once technological, ethical, educational, and civilizational.

The technological question asks:

What can AI do?

The political question asks:

Who controls it?

The ethical question asks:

How should it be governed?

The educational question asks:

What kinds of human beings are being formed through it?

These questions are not competitors. They are successive layers of the same inquiry. Neglect any one of them and our understanding becomes incomplete.

Without attention to power, we risk naïveté. Without attention to dignity, we risk reducing human beings to consumers, workers, or data points.

Without attention to formation, we risk overlooking the subtle transformations taking place within attention, judgment, imagination, and character.

Artificial intelligence may prove to be one of the most consequential technologies in human history. Yet its ultimate significance will not be determined solely by computational advances, market valuations, or regulatory frameworks. It will be determined by the forms of life that emerge around it and through it.

The future of AI is therefore inseparable from the future of human becoming. The question before us is not whether machines will become more intelligent.

The more important question is whether human beings will become wiser. Not whether artificial intelligence will learn to imitate humanity with increasing sophistication.

But whether humanity will preserve and deepen those capacities—judgment, conscience, responsibility, imagination, and wisdom—that no technology can inherit on our behalf.

In the end, the challenge is not simply to build better artificial intelligence.

It is to cultivate a civilization capable of using intelligence, natural and artificial alike, in the service of a more humane world. For the deepest question of the AI age is neither technological nor economic. It is educational in the oldest and most profound sense of the word:

What kind of humanity do we wish to form, and what kind of future are we preparing it to inhabit?

Epilogue: A Question for the Future

Every civilization develops tools.

Some tools extend human capacities.

Some reshape them.

Artificial intelligence may prove to be among the most powerful formative technologies humanity has ever created.

It is already influencing how people learn, remember, communicate, decide, create, and imagine. It is entering schools, workplaces, homes, governments, research institutions, and increasingly the intimate spaces of reflection itself.

Like all transformative technologies, it carries both promise and peril.

The promise lies in augmentation: the possibility of expanding access to knowledge, accelerating discovery, supporting creativity, and assisting human flourishing.

The peril lies in substitution: the temptation to replace rather than deepen the capacities that make us human.

The future significance of AI will therefore depend not only upon technical innovation but upon cultural wisdom. It will depend upon whether societies cultivate the discernment necessary to distinguish assistance from dependency, information from understanding, simulation from participation, and intelligence from wisdom.

Every generation inherits the responsibility of deciding what kinds of human beings it wishes to become.

The AI age is no exception.

The question is therefore not simply what AI will become.

The question is what we will become with it.

That answer remains unwritten.

References

- Arendt, H. (1978). *The life of the mind*. Harcourt Brace Jovanovich.
- Borgmann, A. (1984). *Technology and the character of contemporary life: A philosophical inquiry*. University of Chicago Press.
- Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence*. Yale University Press.
- Dans, E. (2026). *Pope Leo XIV understands AI as power. He's right. Now he must name the actors who wield it*. Medium.**
- Gadamer, H.-G. (2004). *Truth and method* (2nd rev. ed.). Continuum.
- Gebru, T., Bender, E. M., McMillan-Major, A., & Mitchell, M. (2021). On the dangers of stochastic parrots: Can language models be too big? In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency* (pp. 610–623). ACM.
- Haidt, J. (2024). *The anxious generation*. Penguin Press.
- Han, B.-C. (2017). *In the swarm*. MIT Press.
- Han, B.-C. (2022). *Infocracy*. Polity Press.
- Hao, K. (2025). *Empire of AI: Dreams and nightmares in Sam Altman's OpenAI*. Penguin Press.**
- Humboldt, W. von. (2000). Theory of Bildung. In I. Westbury, S. Hopmann, & K. Riquarts (Eds.), *Teaching as a reflective practice: The German Didaktik tradition* (pp. 57–61). Lawrence Erlbaum Associates.
- Illich, I. (1973). *Tools for conviviality*. Harper & Row.
- Jonas, H. (1984). *The imperative of responsibility: In search of an ethics for the technological age*. University of Chicago Press.
- Lanier, J. (2018). *Ten arguments for deleting your social media accounts right now*. Henry Holt.
- Leo XIII. (1891). *Rerum novarum: On capital and labor*. Vatican Press.
- Leo XIV. (2026). *Magnifica Humanitas: On safeguarding the human person in the time of artificial intelligence*. Vatican Press.**
- Stiegler, B. (2010). *Taking care of youth and the generations*. Stanford University Press.
- Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. PublicAffairs.
-

Further Reading

- Biesta, G. (2020). Risking ourselves in education: Qualification, socialization, and subjectification revisited. *Educational Theory*, 70(1), 89–104.
- Dewey, J. (1938). *Experience and education*. Macmillan.
- Floridi, L. (2014). *The fourth revolution: How the infosphere is reshaping human reality*. Oxford University Press.
- Klafki, W. (2000). Didaktik analysis as the core of preparation of instruction. In I. Westbury, S. Hopmann, & K. Riquarts (Eds.), *Teaching as a reflective practice: The German Didaktik tradition*.
- Machado de Oliveira, V. (2021). *Hospicing modernity*. North Atlantic Books.
- McGilchrist, I. (2021). *The matter with things*. Perspectiva Press.
- Nussbaum, M. C. (2010). *Not for profit: Why democracy needs the humanities*. Princeton University Press.
- Taylor, C. (1989). *Sources of the self*. Harvard University Press.
- Zahavi, D. (2005). *Subjectivity and selfhood*. MIT Press.
-

Sources on Bildung, Formation, and Human Becoming

- Arendt, H. (1978). *The life of the mind*.
- Dewey, J. (1938). *Experience and education*.
- Gadamer, H.-G. (2004). *Truth and method*.
- Hegel, G. W. F. (1977). *Phenomenology of spirit*.
- Humboldt, W. von. (2000). *Theory of Bildung*.
- Jonas, H. (1984). *The imperative of responsibility*.
- Klafki, W. (2000). Didaktik analysis as the core of preparation of instruction.
- Nussbaum, M. C. (2010). *Not for profit*.