

March 2026

What Will We Be as We Atrophy?

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Introduction

There are two broad kinds of labor people contribute to society: physical labor, the use of strength, skill, and endurance to do work, and cognitive labor, the use of attention and thought to manage information, produce routine output, and reason through complex problems. A person’s ability to perform these two types of labor—to do and to think—develops over a lifetime and shapes what a person can do without assistance. That competence becomes a core source of their individual value. Yet after the Industrial Revolution, physical labor was increasingly externalized into machines to enhance efficiency and output, and as daily life demanded less from the body, many skills of physical self-reliance atrophied through disuse. Now, Artificial Intelligence (AI) is poised to do the same for cognitive labor. As tool-assisted writing, planning, and reasoning become the default, institutions will optimize for speed and output, people will get fewer reps thinking unaided, and baseline cognitive competence may potentially erode across generations.

Consequences of the Industrial Revolution

By making large-scale power portable and dependable, the improved steam engine helped ignite the Industrial Revolution, rewiring how people worked, traveled, and built—permanently transforming society. As

production moved into machine-driven systems, rapid societal progress was made, creating a workplace where manpower no longer meant the physical power a person could muster over time. Instead, it increasingly depended on one’s mastery of modern tools and systems that maximized workplace efficiency. This benefits a modernizing society, but it also incentivizes individuals to specialize around the tools of their trade—and when those tools become the default, baseline competence shifts. People can function fine; until the tool is missing. As the majority of the workforce specializes, the tradeoff is fragility outside those domains. As machines absorbed more of the work, everyday life demanded less physical effort, and with fewer opportunities to practice broad physical skills, baseline physical capability declined through disuse. Multiple lines of evidence—including military fitness records, longitudinal health surveys, and anthropological comparisons with pre-industrial populations—suggest that industrialization coincided with declines in [grip strength](#), [bone density](#), and [cardiovascular endurance](#), alongside increases in [metabolic disease](#), [postural dysfunction](#), and [musculoskeletal fragility](#).

Society becomes more efficient as our bodies wither from disuse.

AI Revolution

AI tools, like ChatGPT, Gemini, and Grok, will revolutionize society as they fundamentally change the way people

interact with the world. AI removes friction from core cognitive tasks like writing, reasoning, planning, remembering, and explaining, and already, people are using it to enhance their writing, summarize text, and drastically reduce the time needed to perform routine tasks, such as drafting emails and editing articles. As these tools improve and become more mainstream, institutions will reorganize work around AI-assisted efficiency. Just as industrial machines narrowed physical labor into specialized roles, AI may possibly narrow cognitive labor into [tool-mediated workflows](#), reducing the need to practice many forms of [unaided thinking](#) and [externalizing more cognitive effort into tools over time](#). As organizations optimize for speed and output, the work that gets rewarded will be the work that can be produced fastest, and deep thinking will become harder to justify in day-to-day routines.

Society becomes more efficient as our minds wither from disuse.

The Problem

Digital tools have been shown to shape how we think and develop. In *The Shallows*, Nicholas Carr argues that the internet rewards speed, novelty, and constant switching, which trains attention toward skimming and makes deep reading harder because it is practiced less. In *The Anxious Generation*, Jonathan Haidt argues that social media helped shift childhood from play-based to phone-based, fragmenting attention, displacing sleep and in-person social learning, and intensifying social comparison—so the habits that build resilience and emotional stability are practiced less often. These technologies changed the baseline of society, shaping human behavior in the process. AI is

beginning to do the same at speed: as it reorganizes routine work and hiring expectations, [disrupts parts of creative markets, and expands into defense applications](#), people adapt their habits around what the system now rewards and assumes.

This poses a serious problem for both the individual and society. A society heavily dependent on externalized tools to support both its physical and cognitive labor force is highly fragile, where any disruption to the system can have catastrophic effects on its stability and productivity. But the more pressing question is personal: just as the internet and social media shaped human behavior, how will AI shape cognition? Which skills get stronger—and which ones quietly atrophy through disuse?

Those who grew up without AI know what it is like to live without it and have developed the skills to work without it. The generation that grows up with AI will develop the skills to leverage it, increasing output and speed as the tool drafts, summarizes, and solves routine problems. But in doing so, individuals may lose opportunities to practice critical thinking—the slow work of framing a question, testing ideas, and reasoning toward a result. That tradeoff may be the greatest tragedy of AI integration, because critical thinking is built through the very process AI makes easiest to skip.

So how can this core skill be protected as AI advances at an unpredictable pace? It is unrealistic to keep AI out of the workplace as businesses are rapidly adopting it to automate and accelerate routine tasks, and it is spreading into high-skill domains—including [aviation](#), [scientific research](#), and [medicine](#)—where it is increasingly used for decision support, automation, and workflow

systems. In a competitive global economy, the tool is simply too powerful to ignore.

That means the question is not how to keep AI away from workers, but how to protect human cognition as AI becomes the default. How do we retain the fundamental skills that allow people to think clearly, reason deeply, and solve problems without assistance?

Build the Mind

The most practical answer is education, especially during developmental years. While AI can enhance learning in certain contexts—such as research support and explanation—some parts of schooling should remain intentionally AI-free so students build the habits that create strong critical thinking. Youth need to regularly practice reasoning unaided from an early age, because that is how the foundation is formed. Parents play a role here as well, since attention and thinking habits are shaped outside the classroom through application. Device-free, long-form reading will also need to play a larger role in education, as it trains both attention span and reasoning. Higher education can then reinforce these skills through oral exams, in-class writing, and free-response assessments that reveal a student’s thinking rather than their ability to generate polished output.

Developed consistently throughout education, these habits safeguard the foundation of one’s thinking. They also prepare people to use AI more effectively in the workforce, because they learn to frame problems, test ideas, and ask the right questions to get meaningful results. This is a hopeful outcome of AI’s integration into society. The alternative is the opposite: core cognitive skills quietly atrophy because little in the culture requires their maintenance.

Conclusion

Regardless of the implications of AI, the truth is that there is no going back. The gravity of its invention will fundamentally change how people interact in society, and those who refuse to learn it may be left behind—much like the Luddites were swept up by the Industrial Revolution. Yet, the problem is not adoption itself; it is dependency becoming the baseline. What we can influence is how we, at an individual level, choose to use it in day-to-day life. AI is a tool, and overuse turns leverage into dependence. In the age of AI, thinking becomes a practice; whether you keep that foundation strong is your choice.

Author

Kevin Aflatooni is a writer and national security professional. His interests include artificial intelligence, emerging technology, national security, and fifth- and sixth-generation warfare, with a particular focus on the intersections of culture and conflict, and on making complex technological issues accessible to broader audiences. Outside of his analytical work, he also writes fiction and has a strong interest in classic literary fiction

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