gap: "the distance between the point of application of human judgment and the effects of that judgment." Remote warfare has been criticized for distorting situational awareness and imprudently placing life-and-death choices in the hands of decisionmakers far from the nuanced subtleties of any combat zone. While Chapa acknowledges the inherent limitations of ordering kinetic effects from the other side of the world, he also points out that RPA operators have some important decisionmaking advantages over fellow combatants. For one thing, operating with reduced personal risk could actually make it easier to weigh the demands of a tactical situation against ethical norms and strategic priorities. For another, modern RPA operations give crews not only intimate awareness of the battlespace, but also the final decision about employing lethal force in that battlespace—all in virtually real time. That is, although the physical distance between RPA crews and their targets is large, the judgment gap is small.

Chapa offers multiple examples of RPA operators relying on their unique perspective and ultimate decisionmaking responsibility to push back against morally (and strategically) questionable requests from supported units on the battlefield or behind desks in an operations center. Although these examples may surprise those who consciously or subconsciously think of remote warriors as mere "gamers" or disempowered cogs in a machine, others will find Chapa's description of the judgment gap to be a helpful hermeneutic for conceptualizing the value of in-depth operator situational awareness. The major insights of *Is Remote Warfare Moral?* can help us appreciate Chapa's RPA anecdotes beyond their individual particularities, as highlighting the criticality of informed human judgment in distributed, technologically mediated warfighting.

In his final chapter, Chapa addresses the ethical outlook for future remote warfare and notes how AI-powered semiautonomous systems could widen warfighting judgment gaps. This is an issue begging to be explored in more detail. If *Is Remote Warfare Moral?* has

any notable weakness, it is its often narrow focus on looking back at ethical lessons learned over two decades of Air Force RPA employment at the expense of considering in more depth how these lessons might be applied across the spectrum of remote warfare. Chapa imagines a future conflict in which "cyber warfare operators might engage the adversary from Fort Meade . . . bomber crews will use standoff weapons—AI-enabled, air-launched cruise missiles—rather than penetrating heavily defended enemy airspace . . . [or] perhaps fighter pilots will remain at a safe distance while sending swarms of autonomous loyal wingmen, or drones, forward to conduct the air-to-air fighting." Although Chapa's insights about the martial virtues and judgment gap are well articulated and sufficiently generalizable, it might have been worthwhile to explore how, for example, a cyber operator would perform the kind of moral deliberation Chapa describes RPA operators performing today.

Under the assumption that such explorations will be carried on elsewhere, let me then reaffirm here what Chapa does have to say about the future. The martial virtues are whatever qualities of character empower Servicemembers to effectively combat unjust threats to the political community. At the same time, remote warfare need not impose a major judgment gap on human decisionmaking in conflict. As our military relies more and more on AI to confront the challenges of fighting from a distance, Servicemembers must be prepared—technically and ethically—to make their judgments count.

They might start by asking, *Is remote warfare moral?* **JFQ**

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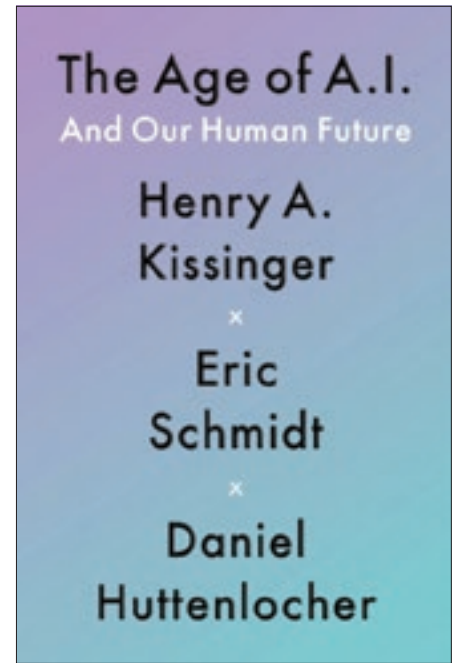
The Age of AI: And Our Human Future

Reviewed by John W. Sutherlin

To fully appreciate *The Age of AI: And Our Human Future*, one must overlook its nebulous description of a decades-old issue and suspend any expectations for a well-researched and thorough account of this vital topic. The authors, who represent major policy, industry, and academic heavyweights, stumble in their attempt to raise awareness and often fail to provide meaningful insights. The analysis and research manifested here leave so many things unanswered. In the end, many will ask themselves why they selected this book out of the choices currently available. This is not a typical Kissinger work spanning 800 or more pages with thousands of sources and infinitely quotable passages exhibiting personal perceptions and a vast foreign policy knowledge. Further, this is not a Schmidt work of

pithy industry-level expertise with keen insights or observations about Google software packages. Perhaps the authors were less interested in an exhaustive treatment of artificial intelligence (AI) and more captivated with making a simple declaration, a clarion call to arms. However, even with this notion as the focal point, the reader may be left wanting more. Still, the book is not without merit; some may find it a good starting point for a deeper dive into the subject of AI and public policy.

Each chapter begins much the same, as philosophers and authors of antiquity are used to lay a foundation for banal statements regarding policy concerns about machines making human decisions. Descartes, Spinoza, and, of course, Kant are paraded before the reader, creating intellectual mediocrity and a confusion of cerebral demands. Perhaps these authors really believe that St. Thomas Aquinas and TikTok can elevate our ethical discourse. Maybe there will be some readers that find incorporating Clausewitz and Gutenberg into the tussle is essential. I did not find it to be particularly helpful.

If the authors want readers to think about the postmodern world where computers make decisions, then why revisit the Middle Ages? What the readers get are often ambiguous or obvious statements. This book would have been more relevant if it had been written 15 years ago. "AIs chiefly use data to perform tasks such as discovering trends, identifying images, and making predictions." And? Does the process of shifting from physical maps to "network platforms using algorithms" really represent a paradigm shift that requires another book to document the eroding of human values and input? Hardly.

This effort falls somewhere between a book and a journal article. If the reader thinks of *The Age of AI* as a policy briefing, then most frustrations, disappointments, and regrets will vanish. The book is worth reading if for only one set of questions asked: "Are humans and AI approaching the same reality from different standpoints, with complementary strengths? Or do we perceive two different, partially overlapping realities:

one that humans can elaborate through reason and another that AI can elaborate through algorithms?" Regardless of the policy area—that is, national security, health care, or commercial interactions—AI is still growing fast, with few human restraints and little thought about its potential repercussions for moral decisionmaking.

The authors insist that "governments, universities, and private-sector innovators should aim to establish limits." I guess the question is "How?" AI has already proved it can beat the socks off human chess players. Is it too late to install safeguards that prevent AI from making fatal decisions where humans are the means to a silicon end? The authors point out that Alan Turing showed acumen in the 1950s and that GPT-3 (third generation generative pre-trained transformer) technology today is closely approaching what AI would define as "consciousness." What is next? Algorithms fashioning popular music for us to purchase? AI making cost-benefit analysis for rationing medicine? Or deciding which cities to bomb?

Oops! Too late. The authors, correctly, find that the AI Rubicon has been crossed.

AI "permits us to aggregate and analyze data" more quickly and without any messy human emotions and biased reasoning. But this also means no human morals and ethics. This could have been the place for the discussion to begin about our human future. The authors ask us to consider an ethical construct as "paramount," allowing political leaders an opportunity to engage with humanity. Without sufficient human (or governmental) limits, nations may simply default to AI for, inter alia, national policy decisionmaking.

Yet I wonder. What would happen to the nation that forwent its reliance on high-speed computers that evolve into AI, instead embracing human fallibility and the sluggish analysis of complex data? Would anyone burn the calculators in favor of the abacus? The need for humans to incorporate ethics into their tools has been around since at least Galileo.

The AI ship has sailed. Now, humans must constantly integrate their flawed

beliefs into both social and silicon systems. AI consciousness may be only another terabyte away, so the authors are correct there. GPT-3, for example, lacks the ability to act independently . . . for now.

A better analysis on artificial intelligence and political power is Michael Kanaan's book *T-Minus AI: Humanity's Countdown to Artificial Intelligence and the New Pursuit of Global Power* (BenBella Books, 2020). Schmidt even praises Kanaan's work as an excellent source of analysis. For those more interested in the nexus between AI and the military, Christian Brose's *The Kill Chain: Defending America in the Future of High-Tech Warfare* (Hachette Books, 2020) is a better researched call to arms. **JFQ**

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