promoting the first Noahic ethic) or playing even a minor role in directing economic activities (thus promoting the second Noahic ethic). VanDrunen may be weakening Paul's call for government to punish evil, too. His vision of justice seeks to deter harm through the threat of punishment and then, after harm occurs, rectify injustices through punishment of perpetrators and compensation for victims. Alternatively, VanDrunen's political theology should consider if governments may rightly include regulatory frameworks that inhibit someone from being harmed in the first place, whether that harm is inflicted by others, societal trends that subvert the Noahic ethics, or even themselves (thus promoting the third Noahic ethic).

Politics after Christendom is a significant contribution to the literature on political theology. VanDrunen's use of natural law, the two kingdoms framework, and the NC offers a refreshing alternative to the transformationalist approaches to public life that populate the field. While the transformationalist tendency to think in terms of redeeming the world through politics misrepresents the role of the state in the current age, viewing political responsibilities through the lens of the NC allows Christians to participate in political life in a God-honoring way and avoid the mistakes associated with immanentizing the eschaton, to borrow Eric Voegelin's phrase, and other vain attempts to insert the ethic of the Church—justice fulfilled through Christ's work on the cross—into modern politics. Overall, VanDrunen's thesis is well-constructed and convincing.

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The Age of AI: And Our Human Future
Henry A. Kissinger, Eric Schmidt, and Daniel Huttenlocher
New York: Little, Brown and Company, 2021 (254 pages)

In *The Age of AI*, former Secretary of State Henry A. Kissinger, former Google chairman and CEO Eric Schmidt, and Daniel Huttenlocher, Cornell University dean of the MIT Schwarzman College of Computing, proclaim that artificial intelligence (AI) "has become a reality." Moreover, AI, and its characteristics to learn, evolve, and surprise, will disrupt a multitude of industries and various facets of human life, ranging from education to art to national defense. Machine learning—the process the technology undergoes to acquire knowledge and accelerate analytic capability—has been continually expanding into logistics, manufacturing, marketing and advertising, and medicine. In chapter 1 ("Where We Are") Kissinger, Schmidt, and Huttenlocher (hereafter referred to as Kissinger et al. or "the authors") persuasively argue that unlike previous technological change in human history, AI promises to transform all realms of human experience. This transformation, "will ultimately occur at the

philosophical level, transforming how humans understand reality and our role within it." Consequentially, the authors ask the following philosophical questions: "How will AI's evolution affect human perception, cognition, and interaction? What will AI's impact be on our culture, our concept of humanity, and, in the end, our history?"

In chapter 2 ("How We Got Here—Technology and Human Thought"), Kissinger et al. review the Western experience with science, technology, and knowledge. Beginning with Classical times (Greek and Roman eras), the authors progress through the "pioneering" philosophical explorations of the Middle Age and the Renaissance, and culminate with eighteenth-century German philosopher Immanuel Kant's ground-breaking *Critique of Pure Reason* (1781). Kant proclaimed that the human mind and experience "filters, structures, and distorts all that we know, even when we attempt to reason "purely' by logic alone. Objective reality in the strictest sense … is ever-present but inherently beyond our direct knowledge." However, twentieth-century physicists, such as Einstein, Heisenberg, and Bohr, as well as Austrian philosopher Luddwig Wittgenstein insights, who counseled that "knowledge was to be found in generalizations about similarities across phenomena", offered greater insights than Kant and his followers had thought possible. Wittgenstein's influence is seen in AIs ability to scan large data sets to "learn" types and patterns and then "make sense" of reality by identifying networks of similarities and image likenesses with what it already knows. Kissinger et al. believe that AI alters the role that our minds have traditionally played in shaping, ordering, and assessing humanity's choices and actions.

Chapter 3 ("From Turing to Today—and Beyond") explains the famous "Turing Test," developed by British mathematician Alan Turing in 1950. According to Turing, "if a machine operated so proficiently that observers could not distinguish its behavior from a human's, the machine should be labeled "intelligent." United States computer scientist John McCarthy enhanced Turing's definition by defining AI as "machines that can perform tasks that are characteristic of human intelligence." In the last decade, computer innovation has resulted in the development of AIs that have begun to equal or exceed human achievement in *specific domains* (although it cannot "reflect" like a human being upon what it discovers). Later in this chapter, Kissinger et al. unveil AGI, or artificial general intelligence, which they define as "completing any intellectual task humans are capable of," and "narrow" AI, "which is developed to complete a specific task." In this reviewer's opinion, these definitions—clearly differentiating between ANI (artificial narrow intelligence), AGI; and ASI (artificial super intelligence)—should have been presented in the first chapter to better frame the ensuing discussion.

Chapter 4 ("Global Network Platforms") explains how online platforms, including social media, web searches, and other online services, could not effectively operate without the use of AI. As more users adopt a network platform, its value and attractiveness increase, resulting in positive network effects. The issue of "community

standards" for content becomes increasingly complex as they become transnational in scope, and Kissinger et al. argue that these standards or rules become as important as national laws. As increasingly sophisticated AI is used to enable these network platforms, it will shape social and commercial arrangements on national and global scales. While ostensibly content-neutral (in "free" societies), these platforms represent community standards, yet the network's filtering and presentation of information is based on the way that information is created, aggregated and later perceived by the consumer. The authors discuss their concerns about how these network platforms (and their human managers) will be responsible for regulating the information environment (and "disinformation"). However, this reviewer argues that the authors give short shrift to ruling government sponsored disinformation, particularly where the threat of increased public regulation against tech companies will induce greater private censorship of opposing opinion (to government policies) in "free" societies.

In chapter 5 ("Security and World Order"), Kissinger et al. argue that no major nation can ignore the security dimensions of AI, especially what they term "strategic AI." Such ever evolving AI technologies will be integrated into offensive and defensive aspects of potential nuclear, conventional, and cyber warfare. Troubling to the authors is that the shift to AI and AI-assisted weapons and defense systems is reliant on (or delegated to) an intelligence of significant analytic potential on a fundamentally different experiential paradigm. Such a scenario introduces unknown or poorly understood risks. Kissinger et al. note the need for having human operators passively "on the AI loop" or "ín the AI loop" to control AI actions (to at least ensure moral agency and accountability) of such autonomous and potentially lethal weapons systems. Moreover, the authors recommend that the major powers pursue their strategic competition within a negotiated, international relations framework of verifiable limits. Yet Kissinger et al. leave unresolved how some countries may decide that AI weapons, which make lethal decisions autonomously *from* human operators, is the best choice for dealing with potential adversaries that "work around" these negotiated limits. This dilemma leaves those countries who abide to international frameworks open to devastating "first strike" harm.

In chapter 6 ("AI and Human Identity"), with the rise of AI, Kissinger et al. argue that the definitions of the human role, human aspiration, and human fulfillment will change. For humans accustomed to agency, centrality, and a monopoly on complex intelligence, these definitional changes will challenge human self-perception. In addition, an even greater number of people may not understand why AI does what it does, reducing their sense of autonomy and ability to recognize a sense of meaning to the world. Furthermore, as AI transforms the nature of work, it may jeopardize many people's senses of identity, fulfillment, and financial security. To address these concerns, the authors recommend a balance where societies and their leaders will choose when individuals should be notified that they are dealing with AI, what pow-

ers they have in those interactions, and determine the full range of permissible and impermissible uses of AI. For example, Kissinger et al. suggest that ensuring human autonomy requires that core governmental decisions are separated out of AI-imbued structures and limited to human administration and oversight. Yet, a noticeable weakness (not addressed by the authors) in this "new epoch's" complexity does not reassure sufficient transparency in AI-based systems that allows for vigilant human control preventing incremental societal harm until a crisis occurs.

In chapter 7 ("AI and the Future"), Kissinger et al. argue that humanity will be confronted with three primary AI options: confining it, partnering with it, or deferring to it. The authors argue that the emergence of AGI will require an "ethic" to explain what is being created and what it will mean for humanity. As a remedy, the Kissinger et al. recommend reasoned discussion among governments, universities, ethicists, and private sector innovators to establish internationally negotiated restrictions on practical AGI actions, especially in the cyberwarfare and nuclear arms arenas. The authors also recommend that the United Stats should systematically explore AI's scope, study its implications, and begin the process of reconciling with it (which this reviewer agrees is overdue). Finally, the Kissinger et al. recommend a designated commission be charged with ensuring that the United States remains intellectually and strategically competitive; nationally and globally raise awareness of cultural implications AI produces; and be prepared to engage with existing national and subnational groups to address AI controversies.

While there are issues that Kissinger et al. have insufficiently addressed (and noted above), the authors have nevertheless written a book which the intelligent layperson can readily access for a general understanding of existing ANI and future AGI issues (although essentially ignoring decades out ASI). To their credit, Kissinger et al. bring up many of the most important national and global policy questions that individuals and societies must address to effectively manage opportunities and threats that this highly disruptive technology presents to humanity's future.

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