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Book Review: The Age of AI and Our Human Future

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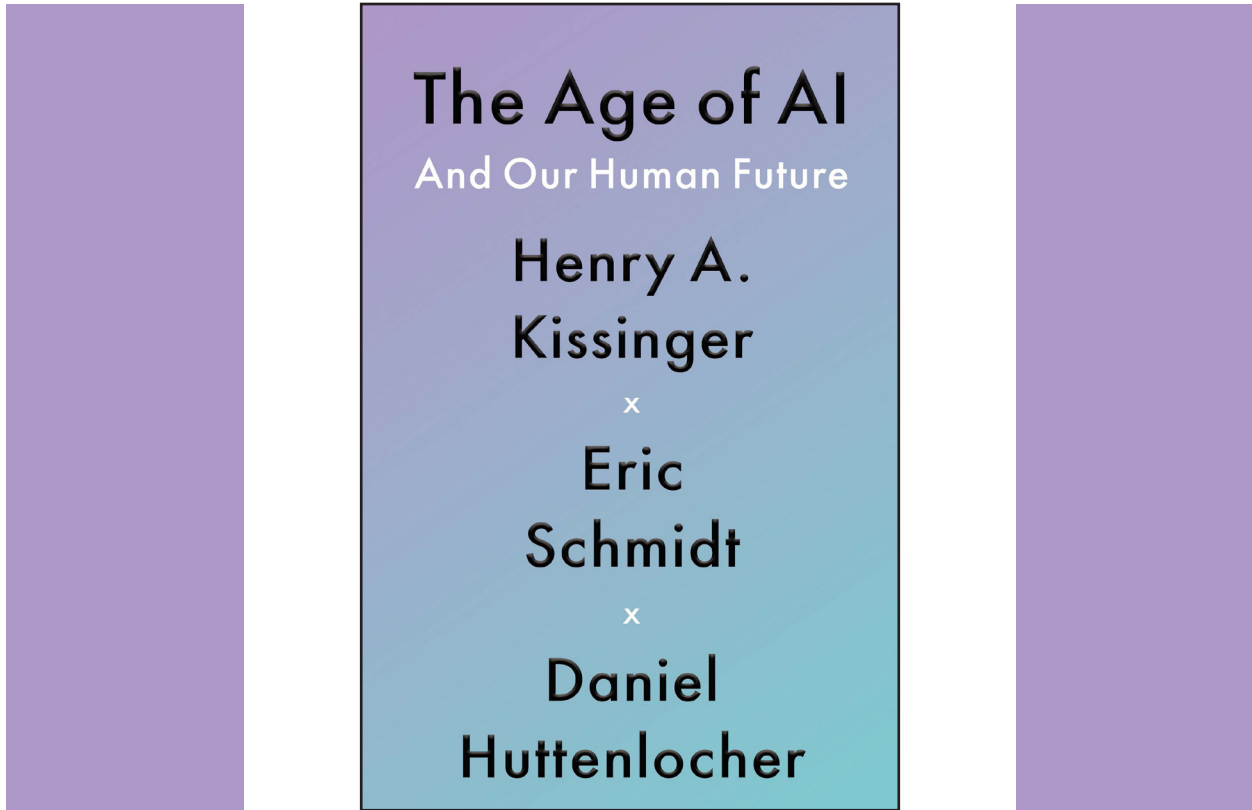


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This short, effective artificial intelligence (AI) primer complements many longer treatments and journal articles on the subject. It is notable for its authoritative arguments and analysis of the nature and potential impact of AI. Readers well-versed in AI will find little new here, but the book's national security implications merit consideration.

Primary themes include the transformative character and criticality of establishing international agreements regarding the application of AI. The authors remind readers of humanity's control of AI development and the contingent responsibility to ensure AI products align with acceptable values. These observations have at least two flaws. First, as history and ongoing events in Ukraine demonstrate, the term *acceptable* does not share a universal definition. Second, the so-called logic behind AI processes' innovative, sometimes surprising, and even inspiring outcomes often remains unknown and unknowable.

We can see the results of AI's learning and processing but cannot always see the process through which a result arrives, nor can AI software describe the way it achieves its ends. The relative inconsequence of an AI achievement such as a revolutionary chess move pales in comparison to its implementation in national defense strategy or weapons system employment. The authors, aware of these concerns, observe: "We all must pay attention to AI's potential risks. We cannot leave its development or application to any one constituency, be it researchers, companies, governments, or civil society organizations" (77). Two reservations come to mind: (1) responsible employers of AI must include parties with opposing viewpoints during design, and (2) planned applications and users will inevitably include blocs unconcerned with what comprises unacceptable risks or functions. Trouble with the latter arises given that, "although creating a sophisticated AI requires substantial

computing power, proliferating or operating the AI generally does not” (140).

Kissinger, Schmidt, and Huttenlocher posit that “[w]hen information is contextualized, it becomes knowledge. When knowledge compels convictions, it becomes wisdom” (52). If so, today’s too frequent acceptance of dubious assertions from various sources demonstrates that “wisdom,” like “acceptable” above, takes on a wide spectrum of understandings. AI’s sure-to-improve effectiveness in message design, to include purposely exploiting social vulnerabilities, presents significant security and broader implications. The authors later partially recognize the dangers in one context while giving nongovernmental applications too little attention, cautioning that “[i]f a government encourages platforms to label or block certain content, or if it requires AI to identify and downgrade biased or ‘false’ information, such decisions may effectively operate as engines of social policy with unique breadth and influence” (113).

What of AI’s wider influence on national security or military operations? Certainly, the fundamental character of warfare could change. Programmed to achieve a given end—for example, to employ all relevant elements of national power to seize a given country—we would expect AI to incorporate military and economic, diplomatic, informational, social, commercial, and other elements in ways heretofore unseen and, as AI adapts, unforeseen and little understood. The arenas of conflict will expand while focus tightens. Might land, air, sea, space, and cyberspace become mere environmental components in multidomain operations while future doctrinal domains consist of only the social domain and others AI has yet to identify?

By necessity, AI systems will compete with one another and alter war’s play of chance, friction, and exercise of coup d’oeil. The pace of adaptation

will increase dramatically. The authors suggest, “[b]ecause of AI’s potential to adapt in response to the phenomena it encounters, when two AI weapons systems are deployed against each other, neither side is likely to have a precise understanding of the results” (157). Given moral asymmetry, the nature of resultant AI recommendations—or unchallenged AI-initiated actions—will differ depending on an AI’s creator. Will they define targets in terms of “an enemy force” or as “other than a member of the friendly force”? What comprises a justifiable tradeoff? The authors ask, “What if AI recommended that a commander in chief sacrifice a significant number of citizens or their interests in order to save . . . an even greater number?” (23). Knowing the fallibility of AI, could a human monitor override AI recommendations? Would that answer differ if AI were to provide habitually superior solutions and if rejecting its advice could result in greater loss?

We should not expect the authors to answer all these difficult questions. They repeat the necessity of an AI ethic (213), essentiality of adversaries’ regular communication with each other (173), and the development of “a concept of arms control for AI” (223). Despite these commendable calls for cooperation, the authors do not address approaches for when it is not forthcoming, as it seems will inevitably be the case. The failure to contemplate deterrence of the reprehensible, perhaps catastrophic, use of AI leaves the most important questions unanswered.

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