AI and International Order

Indicators to distinguish reality from hype

by Maj Ryan Ratcliffe

Introduction

To describe artificial intelligence (AI) as being in vogue would be an understatement. From the front page of the *New York Times* to articles of legislation and with billion-dollar investments from private and public entities alike, it is hard to find a field in which AI is not dominating conversations. Furthermore, projections of AI's possible implications are as diverse as the sectors interested in the technology. On the one hand, some believe AI is overhyped and will merely produce changes akin to the introductions of previous technologies.[1] On the other hand, however, more numerous voices warn of fundamental changes to the human way of life, claiming that impressive tools like generative AI portend an alteration of human society unseen since the Enlightenment—or even man's harnessing of fire.[2]

The Marine Corps is not exempt from today's heightened interest in AI. In 2020, LtCol Thomas C. Linn (Ret) wrote in these pages, "Over the coming decade and beyond, AI will profoundly impact almost every aspect of the Marine Corps. It will change the character of war and possibly the long thought to be immutable nature of war."[3] In the short time since that publication, the Marine Corps has made significant strides in understanding and utilizing AI. In June 2023, Marine Corps Training and Education Command hosted an AI symposium that featured key leaders like LtGen Matthew Glavy, Deputy Commandant for Information, and Dr. Tuomas Sandholm, computer science professor at Carnegie Mellon University and Chief Executive Offi-

>*Maj Ratcliffe is an EA-6B Electronic Warfare Officer and Joint Terminal Attack Controller assigned to the Deputy Commandant for Information. He holds a Master of International Public Policy from the Johns Hopkins School of Advanced International Studies.*

cer of Strategy Robot, Inc. AI is also set to feature prominently in the Gen Robert B. Neller Center for Wargaming and Analysis as a core element of BAE Systems' contract-winning Pioneer application.[4] The Marine Corps is already acquiring AI-enabled tools to accomplish a range of tasks, from applications improving personnel management to loyal wingmen increasing the lethality of the Corps' advanced fighters.[5] Considering the magnitude of AI's potential warfighting implications, this heightened focus on AI is not only unsurprising, it is the responsible course of action.

In addition to AI's potential impacts on the conduct of war, many also anticipate that it will disrupt the international order, thereby shaping the circumstances in which Marines may be called upon to operate.[6] While AI's disruptive potential is certainly noteworthy, it is not the first new technology to affect the international order. In the *Virtual Weapon and International Order*, Lucas Kello considers past technologically-inspired revolutions and offers a conceptual framework for evaluating their impacts. His framework includes three levels of revolution: Third-Order Revolutions, which he terms "Systemic Dis-

ruption;" Second-Order Revolutions, or "Systemic Revision;" and First-Order Revolutions, which he deems "Systems Change."[7] Kello's framework is useful for considering the ways in which AI will be incorporated into and subsequently shape the international order; however, the range of AI technologies being developed and their emergent qualities make attempts to predict its specific impacts a fool's errand. It would be negligent, though, to do nothing in the face of this technology that is almost sure to be highly disruptive.

Instead of predictions, I offer *indicators* of change: observable, potential developments aligned with Kello's framework that can offer insight into the direction in which AI's impacts may be trending. First, I consider indicators that would align with a Third-Order Revolution—developments that alter the balance of power, such as autonomous weapons. Next are indicators of a Second-Order Revolution—alterations of the moral fabric of the international system, such as rampant digital authoritarianism. Finally, a First-Order Revolution would be marked by a shift in the composition of the existing order—the supplanting of states as the international system's primary unit of action by the powerful corporations that develop AI.

Judging from the current discourse surrounding AI, each of these revolutions appears to be a viable possibility. Most likely, one will unfold as the primary alteration to the international order; however, identifying that dynamic at today's inflection point is likely impossible. What follows is an outline of several factors that can assist with deter-

mining the path on which we may soon find ourselves, beginning with Kello's Third-Order Revolution.

Disrupting the System by Changing the Means of War

Kello's Third-Order Revolution is a disruption to the existing system in the form of a "disturbance to the regularized interactions of states sharing basic purposes of survival and stability in their relations."[8] According to Kello, this disruption is most likely to stem from altering the material ingredients of power, but it can also stem from changes to states' interests.[9] While AI has the potential to alter states' interests, the more immediate, pressing concerns are tied to the material ingredients of power. Specifically, two ingredients of power AI appear well-suited to alter are autonomous weapon systems and AI-enabled cyberattacks.[10]

Thanks to pop culture, the term *AI* often invokes images of killer robots or runaway computer programs. Fortunately, neither of these capabilities is in widespread development; however, both are closer than ever to becoming reality.[11] In January 2023, the DOD updated its "Autonomy in Weapon Systems" directive, which outlines noble ideals for the development of such AI-dependent weapon systems but does not offer clear boundaries to guide their development.[12] Judging from this updated policy guidance and the estimated $11 billion in global spending on the development of lethal autonomous weapons systems, it is quite possible that a breakthrough in this field is near.[13] Moreover, based on David Sanger's claim that U.S. technology sanctions against China are in part tied to concerns about China's autonomous weapons development, it is possible that we stand on the brink of an AI-enabled, lethal autonomous weapons systems arms race.[14]

Multiple indicators can warn of the emergence of such an arms race. First and foremost is funding. Determining a capability's prioritization based on its funding is not a difficult task; determining how much funding is applied to highly classified, AI-enabled capabilities is much more challenging. As such, many observable indicators

may not emerge until new capabilities are formally revealed. One type of reveal that would strongly indicate progress would be the deployment of lethal autonomous weapons systems in peripheral conflicts. This indicator would be especially noteworthy if the deployment occurred in a conflict where the deploying state possessed a significant advantage and can use the deployment of its autonomous capability to test its effectiveness, demonstrate the state's newfound strength, or both. Other potential indicators are the establishment of units or organizations formally tasked to study, develop, or operate lethal autonomous weapons systems; the appointment of a senior leader tasked with overseeing the development of those systems; and formal international agreements or partnerships focused on developing lethal autonomous weapons systems—even under specific legal or ethical guidelines.

Like lethal autonomous weapons systems, AI-enabled cyberattack capabilities are likely on the cusp of deployment, although much less is known about their development—likely in no small part due to state-based cyber actors' overarchingly secretive nature. Where this is of particular concern, however, is in the hands of "individual actors, terrorists, ransomware groups or smaller nations with advanced cyber skills."[15] The asymmetric opportunity offered by cheap-but-powerful cyberattack capabilities powered by generative AI may become extremely appealing to rogue actors, and at potentially great cost to advanced states. These novel techniques could ultimately alter the balance of power between traditional leading actors and rogue actors in ways that redefine their relationship on the global stage.

Unfortunately, the difficulty of determining the status of generative AI-enabled cyber capability development extends to the realm of indicators as well. Merely attributing cyberattacks is challenging and typically unfolds slowly; determining the source of the code used in the attack—human or generative AI, or both—may end up being at least as arduous of a task. Fortunately, there may be hope, but that hope lies

in AI. By leveraging the large databases of known adversaries, tactics, and code (such as MITRE's ATT&CK), AI-enabled cybersecurity capabilities could assess an attack against the large databases to determine if the code is novel.[16] A rapid rise in new, non-recursive code could indicate increased use of generative AI to develop new attack tactics, techniques, and procedures.

Whether it is the deployment of a lethal autonomous weapons system in an otherwise low-intensity conflict or a significant spike in the use of novel code and cyberattack tactics, these indicators are several steps down the path toward a disruption of the existing system. However, these indicators and the technologies to which they are tied are not in and of themselves revolutions—the revolution is found in the altered interactions between states. Fortunately, these indicators should be observable before the system is fully disrupted, making them useful for shaping investment ahead of a Third-Order Revolution's impacts on inter-state dynamics.

Revising the System: Authority and Collectivism at the Center

Kello's Second-Order Revolution is marked by a change in the principles around which the international order is organized, and AI appears poised to contribute to such a change. Since 1945, the international order has been guided primarily by the principles of sovereignty, human rights, and the rule of law. While those principles still reign supreme, their continued primacy is not guaranteed. Modern authoritarianism directly challenges them, threatening to replace those organizing principles with an imperialism that ignores sovereignty, a collectivism that eschews human rights, and an authoritarianism that rewrites the law as it sees fit.[17]

A common trait among authoritarian regimes is the need to control their populace, as domestic turmoil poses a severe threat to such regimes. Advanced digital tools, including AI-enabled surveillance capabilities, are making it even easier for authoritarian regimes to exert centralized control. In a 2019 Brookings policy brief, Alina Polyakova and Chris Meserole claim, "Beijing's long

experience building a robust digital surveillance architecture has started to pay dividends: China has increasingly become the supplier of choice for illiberal regimes looking to deploy surveillance systems of their own."[18] They go on to propose that if China's model of digital governance and infrastructure go unchallenged, then "the authoritarian toolkit that Beijing has long honed at home will increasingly spread abroad."[19] If China's low-cost, effective toolkit does increasingly spread abroad, the number of states joining the broader democratic backslide may continue rising—and Russia's willingness to weaponize information technologies as part of targeted influence operations could further exacerbate and advance that change.[20]

Fortunately, the indicators of a Second-Order Revolution emerge earlier and are more quantifiable than the likely indicators of a Third-Order Revolution. First and foremost, the sale of Chinese and Russian digital technologies to other states—particularly those with preexisting authoritarian

reduced decline in the number of existing ones, as they may be able to better secure their hold on power for longer. But authoritarian governments are not the only potential opportunistic disruptors who could be empowered by the rise of AI. To consider Kello's final revolution, we turn to entities theoretically detached from state governments: private corporations.

A Changed System: The Rise—or Return—of the Sovereign Corporation

Modern, multinational technology corporations such as Facebook, Apple, Amazon, Netflix, and Google are regularly in the spotlight for their shocking levels of power: Each earns revenue equivalent to a developed country's gross domestic product,[22] they snub federal authorities and lawmakers,[23] and they exert increasing influence on citizens' daily lives.[24] Continued progress down this path, advanced by these companies' leadership in the deployment of AI, portends the arrival of a First-Order Revolution, a System Change wherein the international

extensive overseas territories, which laid the groundwork for the emerging British Empire.[26] This private entity, which, like today's multinational corporations, was responsible primarily to its shareholders, blurred the line between the sovereign authority of a state and the profit-seeking nature of a commercial enterprise—ultimately buttressing Britain's power as a state.[27] If two or three of today's multinational technology corporations become the dominant players in AI, they would reap massive monetary rewards and may also begin performing elements of governance—establishing justice, insuring domestic tranquility, providing for the common defense, or promoting society's general welfare.[28] Such developments could produce the most significant changes to the international system since the Treaty of Westphalia established the sovereign, state-based international order.[29]

This outcome is admittedly the most extreme, but conditions in today's geostrategic environment may be favorable to such a change. The Director of National Intelligence assesses that there is a growing mismatch "between challenges and needs with the systems and organizations to deal with them," and the international system "is poorly set up to address the compounding global challenges facing populations." As a result, old orders are strained or eroding, and "actors at every level are struggling to agree on new models for how to structure civilization."[30] The handful of private entities with a commanding lead in the development and deployment of AI-based technologies are well-postured to gain even more power and in ways that fill the growing void between existing institutions and peoples' needs. For example, the number of 16- and 17-year-olds with driver's licenses fell by roughly 50 percent from 1997 to 2020, and a key factor is that teenagers no longer "see cars as a ticket to freedom or a crucial life milestone."[31] Instead of depending solely on government-provided infrastructure, such as roads, for freedom and vitality, modern teenagers now depend heavily on digital infrastructure and services as well. Even when they do benefit from that govern-

> *If two or three of today's multinational technology corporations become the dominant players in AI, they … may also begin performing elements of governance …*

tendencies—is an easily observable metric. As of 2020, the Senate Foreign Relations Committee was tracking Chinese digital investments in more than 60 countries worldwide as part of the Belt and Road Initiative.[21] Monitoring those and any new investments over time, then observing any changes in those nations' level of authoritarianism and democracy, can serve as a highly effective indicator of technological development, deployment, and impact on international order.

As the widespread deployment of advanced AI makes digital authoritarianism's tools more affordable and effective, there very well may be a rise in opportunistic authoritarians—or a

system's key unit of action and analysis—at present, states—changes. But if these multinational giants supplant the unit of action that has dominated the international system for nearly four centuries, it may in fact be a rhyme of the past.

The East India Company was formed on 31 December 1600. Although modest at its founding, it rapidly gained both power and authority. It soon operated with *de facto* sovereignty in foreign lands, including the authority to carry out capital punishment, on behalf of the English Crown.[25] In the mid-1700s, the East India Company transitioned from being primarily a trading organization to administering

ment-provided infrastructure, it is often accessed through digital tools such as ridesharing applications.[32] Another example with even greater potential implications for democratic governments is the impact these corporations may have on elections. In the wake of the contentious 2020 U.S. Presidential election, many technology corporations' chief executive officers faced questions from American lawmakers over whether their actions to preserve the sanctity of the electoral process were sufficient.[33] Regardless of the impact these corporate entities have had on elections thus far, this interest demonstrates the potential influence that private entities can have on matters of governance.

Identifying indicators of further progress toward a First-Order Revolution is more challenging than parsing the ones that presently exist, as many of them will be qualitative and the complex relationship involved makes anticipation very challenging. One of the most obvious would be a further separation of AI's industry leaders from their competitors, creating a higher barrier to entry into AI-related markets. Another key indicator would be the growing role of private entities in traditional governance tasks, which could include a state deciding to establish a formal agreement that allows a private corporation to exercise aspects of sovereign rule.

It is difficult to imagine an international order in which states do not rule supreme; but, at the cusp of the age of AI, such a world seems more possible now than at any time since the East India Company built the foundations of the British Empire. Only time will tell if dynamics similar to those that undergirded the Peace of Westphalia and state sovereignty end up contributing to its ultimate demise.

Conclusion

Although it is too early to say with certainty how AI will shape the international order, AI's revolutionary potential means it is likely to produce at least some change to that order. Kello's conceptual framework for technological revolutions offers a roadmap for considering how those changes may unfold.

By evaluating the dynamics of Third-, Second-, and First-Order Revolutions, we can see specific ways in which AI's manifestations may impact the international order. From those manifestations and impacts, we also see indicators that can help decision makers discern the path down which AI's revolutionary impacts may be proceeding.

In the 2018 study, "Coping with Surprise in Great Power Conflicts," Mark Cancian proposes that "Militaries have a set of expectations about ... how technologies will function. ... However, there remain huge, but often unacknowledged uncertainties and with uncertainty lies the possibility of surprise."[34] Rather than offering yet another prediction about how AI will alter the international order, I have instead tried to emphasize some of the various *alternatives* that may unfold, along with observable metrics that can provide signposts for the path down which we may find ourselves advancing. Ideally, senior leaders can then use the potential observation of those indicators to help minimize surprise and more quickly adapt to the changing environment ushered in by AI. Finally, by discussing the feasibility of these various scenarios without being prescriptive, I hope to help avoid some of the surprises that might unfold in the face of the impending AI revolution.

Notes

1. Jaron Lanier, "There Is No A.I.," *The New Yorker*, April 20, 2023, https://www.newyorker.com/science/annals-of-artificial-intelligence/there-is-no-ai.

2. Henry Kissinger, Eric Schmidt, and Daniel P. Huttenlocher, *The Age of AI: And Our Human Future*, Paperback ed. (New York: Back Bay Books/Little, Brown and Company, 2022); and Ben Buchanan and Andrew Imbrie, *The New Fire: War, Peace, and Democracy in the Age of AI* (Cambridge, MA: The MIT Press, 2022).

3. Thomas C. Linn, "Marines in the Age of Artificial Intelligence: Changing the character of war," *Marine Corps Gazette*, February 2020, https://mca-marines.org/wp-content/uploads/Marines-in-the-Age-of-Artificial-Intelligence.pdf.

4. Staff, "BAE Systems' Prototype Selected for U.S. Marine Corps Wargaming and Analysis Center," *BAE Systems*, n.d., https://www.bae-systems.com/en-us/feature/bae-systems-prototype-selected-for-us-marine-corps-wargaming-and-analysis-center.

5. Jon Harper, "Marine Corps Says Development of AI-Enabled Talent Management Portal is a 'Must-Pay Bill,'" *DefenseScoop*, March 6, 2023, https://defensescoop.com/2023/03/06/marine-corps-says-development-of-ai-enabled-talent-management-portal-is-a-must-pay-bill and Sam LaGrone, "Marines Buy 2 XQ-58A Valkyrie Drones for 'Collaborative Killer' Concept Testing," *USNI News*, January 24, 2023, https://news.usni.org/2023/01/24/marines-buy-2-xq-58a-valkyrie-drones-for-collaborative-killer-concept-testing.

6. Defined by Henry Kissinger as the practical application of concepts of power, legitimacy, and moral arrangements on a global scale. Henry Kissinger, *World Order* (New York: Penguin Books, 2014).

7. Lucas Kello, *The Virtual Weapon and International Order*, (New Haven: Yale University Press, 2017).

8. Ibid.

9. Ibid.

10. David E. Sanger, "The Next Fear on A.I.: Hollywood's Killer Robots Become the Military's Tools," *The New York Times*, May 5, 2023, https://www.nytimes.com/2023/05/05/us/politics/ai-military-war-nuclear-weapons-russia-china.html.

11. Kelley M. Sayler, "Defense Primer: U.S. Policy on Lethal Autonomous Weapon Systems," *Congressional Research Service*, May 15, 2023, https://crsreports.congress.gov/product/pdf/IF/IF11150, 1.

12. Office of the Under Secretary of Defense for Policy, *Directive 3000.09: Autonomy in Weapon Systems*, (Washington, DC: 2023).

13. *The New Fire*.

14. "The Next Fear on A.I."

15. Ibid.

16. Staff, "Staff, MITRE ATT&CK®," *MIRE ATT&CK*, n.d., https://attack.mitre.org.

17. Office of the Secretary of State's Policy Planning Staff, *The Elements of the China Challenge*, (Washington, DC: 2020).

18. Alina Polyakova and Chris Meserole, "Exporting Digital Authoritarianism: The Russian and Chinese Models," *Brookings*, August 2019, https://www.brookings.edu/research/exporting-digital-authoritarianism.

19. Ibid.

20. Ibid.

21. United States Senate Committee on Foreign Relations, *The New Big Brother—China and Digital Authoritarianism*, (Washington, DC: 2020).

22. Analysis performed using 2022 data from the IMF (IMF Data Mapper, "GDP, current prices," https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/ WEOWORLD.) and Google Finance ("Google Finance-Stock Market Prices, Real-Time Quotes & Business News," https://www.google.com/finance).

23. Ellen Nakashima, "Apple Vows to Resist FBI Demand to Crack IPhone, *Washington Post*, February 17, 2016, https://www.washingtonpost.com/world/national-security/us-wants-apple-to-help-unlock-iphone-used-by-san-bernardino-shooter/2016/02/16/69b903ee-d4d9-11e5-9823-02b905009f99_story.html.

24. *The Age of AI*.

25. Ian J. Barrow, *The East India Company, 1600-1858: A Short History with Documents* (Indianapolis, Indiana: Hackett Publishing Company, Inc., 2017).

26. Ibid.

27. Notably, the East India Company was founded nearly half a century before the Treaty of Westphalia in 1648, when the concept of state sovereignty was codified in an internationally recognized document.

28. U.S. Const. Preamble.

29. *World Order*.

30. National Intelligence Council (NIC), *Global Trends 2040: A More Contested World*, (Washington: National Intelligence Council, 2021).

31. Shannon Osaka, "'I'll Call an Uber or 911': Why Gen Z Doesn't Want to Drive," *Washington Post*, February 17, 2023, https://www.washingtonpost.com/climate-solutions/2023/02/13/gen-z-driving-less-uber.

32. "I'll Call an Uber."

33. BBC News, "Facebook and Twitter Grilled over U.S. Election," *BBC News*, November 17, 2020, https://www.bbc.com/news/education-54974819.

34. Mark F. Cancian, " Coping with Surprise in Great Power Conflicts," *Center for Strategic and International Studies*, February 20, 2018, https://www.csis.org/analysis/coping-surprise-great-power-conflicts.