SCUSA 74 Roundtable Topic: Threat and Promise of Innovative Technologies

Innovative technology is the novel and practical application of scientific knowledge to human life. For some, technology is – and always has been – apolitical and morally neutral. The threat or promise of innovative technologies depends on their practical application. Just as the wheel was used for both pottery and war chariots, quantum computers of the future might be used to both synthesize lifesaving medications and cripple the power grids hospitals depend on. This view rests on the assumption of control by good or bad faith actors employing the technology. Thus, the policy questions surrounding innovative technologies focus on normative claims about which applications are morally acceptable (e.g., nuclear power vs. nuclear bombs) and how to minimize the threats while maximizing the promise.

Others contend that these assumptions are no longer valid in the 21st century. From this perspective, humanity is on the cusp of technological developments that will – in and of themselves – elude the control of the humans who create them. If the technologies of tomorrow can develop, think for, and iterate upon themselves, questions of “how” and “what” are displaced by questions of “should.” Most of our proposed topics and questions for discussion below focus on “how” and “what” questions in the context of innovative technologies in American foreign policy, but “should” questions are inevitably considered as well. Based on what we know about the capabilities of these technologies today, how do we mitigate threats to the United States and its allies? What new attack vectors do these technologies enable? Conversely, how do we leverage these technologies to better the human condition? Should the United States adopt an accommodative or adversarial stance towards their development?

Proposed Topics and Questions for Discussion

- The readings below have links, but they may be behind a pay wall. If so, obtain them through your institution’s library.
- Read at least two of the articles listed under each topic.

Framing Session: Does technology win wars? Are we using it to solve big problems?

The world is watching trench warfare in the Russian-Ukrainian conflict. The Israeli army is mounting a ground invasion of Gaza. What does this say about the limited significance of technological superiority in combat? Thinking beyond combat, we will frame the “big problems” the world is facing in the context of these four topics: A.I., blockchain/DeFi, IW, and social cybersecurity. While we typically think of the impacts of these technologies in terms of threats, where do opportunities lie for utilizing them in engineering peace or solving existential challenges like climate change?

Jacquelyn Schneider, “Does Technology Win Wars,” *Foreign Affairs*, March 2023
https://www.foreignaffairs.com/ukraine/does-technology-win-wars

Jordan et al., “Peace engineering in practice: A case study at the University of New Mexico,” *Technological Forecasting and Social Change*, December 2021
https://doi.org/10.1016/j.techfore.2021.121113


“Complexity, Entropy, and Faster Battlefield Decisions with John Bicknell,” The Convergence Podcast
Discussion Topic 1: Generative Artificial Intelligence

Long before large language models helped admin assistants generate memos and emails, artificial intelligence (A.I.) revolutionized intelligence collection platforms (e.g., Palantir). How is A.I. being used in efforts to destabilize the world order? How are nation-states using A.I. in combat? Can we identify missed opportunities in utilizing A.I. for better governance? Lastly, should regimes set guardrails on A.I. development and/or employment given its propensity to iterate upon itself? What are the potential environmental impacts of A.I. development? How might information asymmetries and automation threaten economic stability?


Discussion Topic 2: Blockchain, Cryptocurrencies, and Decentralized Autonomous Organizations

Some cryptocurrencies require large energy inputs to secure their networks and facilitate the transfer of value between users. Many are used to evade sanctions and fund illicit activities. But how is this any different than the use of cash or the legacy financial system? Might cryptocurrency also facilitate financial freedom for those under authoritarian rule? Additionally, decentralized ledgers, blockchain or “digital timestamping” may very well provide solutions to verification problems associated with “deep fake” A.I.? Are nation-state policies against decentralized autonomous organizations enforceable? What are the incentive structures built into these networks and how do we leverage this knowledge to maximize benefits and minimize downsides?


Discussion Topic 3: Information Warfare

Several media reports on “deep fake” videos enabled by sophisticated artificial intelligence suggest the world is entering a new era in which it is nearly impossible to determine what is real. But similar concerns were raised about the power for anyone to publish anything with the advent of blogs on
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the internet. With the emergence of each new innovative technology enabling counterfeits comes another used to detect forgeries. Is this time different? Are our digital defense and life support infrastructures “hackable”? Where have disinformation campaigns succeeded and failed? Which countermeasures have been most effective?


Discussion Topic 4: Social Cybersecurity

Why is Congress calling the heads of social media companies to Capitol Hill to testify? What does the Department of Defense have against TikTok? As adversaries search for non-kinetic ways to damage the United States in great power competition, social media is clearly a critical attack vector. How can we apply lessons learned after election interference efforts in 2016 (and beyond) to public policy solutions? How do we both maximize commitment to 1st Amendment rights and minimize efforts to undermine democratic institutions?


Concluding Session: Threats to the Westphalian Order, or Promises Against Authoritarianism?

The democratization of technology both facilitates resistance to authoritarianism and presents new obstacles to liberal democracy in the developing world. As more people opt-in to borderless organizations and decentralized means of information/value exchange, will the necessity and influence of traditional nation-state governance wax or wane? Where do we see these technologies effectively innovating freedom and democracy? Does self-improving A.I. pose a long-term threat to humanity? Will it make centralized authoritarian rule easier?

Alex Krasodomski, “From risk to revolution: How AI can revive democracy,” *Chatham House*, September 29, 2023
https://www.chathamhouse.org/publications/the-world-today/2023-10/risk-revolution-how-ai-can-revive-democracy