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BOOK REVIEW

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In George S. Takach's *Cold War 2.0*, the digital age's battle lines are drawn, not over territories, but over the mastery of technologies that define our era: artificial intelligence, semiconductors, quantum computing, and biotechnology.

George S. Takach defines Cold War 2.0 as the contemporary rivalry, predominantly between Western democracies, led by the United States, and autocracies, represented by China and Russia, and the era is distinguished by intertwining ideological conflicts with a race for technological supremacy. Takach offers a thorough analysis of the evolving geopolitical tensions that mark a clear division between democratic and autocratic powers in the context of the digital era.

The term Cold War 2.0 draws a parallel to the original Cold War, a period marked by geopolitical tension between the U.S. and the former Soviet Union from the late 1940s to the latter's dissolution in 1991. The original Cold War featured a nuclear arms race, proxy wars, and ideological conflicts between capitalism and communism. Takach was not the first author to coin the term Cold War 2.0. It was Robert B. Zoellick, the 11th President of the World Bank Group (2007–2012), who first officially used 'Cold War 2.0' during a speech at the U.S. Military Academy at West Point in 2008. He suggested the emergence of a new global divide akin to that of the Cold War era.[1]

Since its inception, the term Cold War 2.0 has gained increased prominence in the mid-2010s, used by politicians, journalists, and analysts to characterise the escalating strategic competition between the U.S. and China.[2] In these narratives, the rivalry includes trade disputes, technological competitions, and geopolitical tensions, notably intensifying after Xi Jinping's rise to power in China and the heightened U.S.-China tensions during the Trump administration. Henry Kissinger, the former U.S. Secretary of State, warned in a 2018 interview with the *Financial Times*,[3] the United States and China were entering the 'foothills of a Cold War,' highlighting the gravity of the evolving situation. In this sense, Cold War 2.0 implies that current U.S.-China tensions mirror those of the original Cold War.

In recent years, the term Cold War 2.0 has garnered attention among scholars. A notable example is a paper published in *Geopolitics*, titled 'The Second Cold War: U.S.-China Competition for Centrality in Infrastructure, Digital, Production, and Finance Networks,'[4] by a group of scholars across Europe, the United States, the Middle East, and Africa. They narrowed down the scope of the rivalry between the U.S. and China to a competition for supremacy across global networks, and this competition marks a departure from the territorial divisions of the previous Cold War, with both nations vying for global influence rather than dividing the world into blocs. They argue that the dominant powers within these networks can control the flow of goods, information, and capital. Digital technologies underscore the competitiveness of those networks.

AI as a pivot in Cold War 2.0

Cold War 2.0 examines how technological innovation, especially AI, is shaping geopolitics. Takach emphasises these technologies' critical significance, both in warfare and other domains. He contends that, unlike the original Cold War, which concluded with the dissolution of the Soviet Union, the future of Cold War 2.0 remains uncertain, reflecting the fluid nature of contemporary geopolitics and technological advancement.

In history, humanity has witnessed three industrial revolutions, each of which has positioned its epicentre as the economic hub of its era. As the third revolution draws to a close, the seeds of a new wave are being sown. The nation that emerges as the centre of this forthcoming technological revolution will inevitably become the economic nucleus of the new age.

In the battle to lead the fourth industrial revolution, Takach highlights the crucial role of AI in shaping modern geopolitical rivalries, presenting it not just as a tool of power but as the central battlefield, with the potential to determine global dominance. Takach argues that AI, as an 'accelerator technology,' can boost efficiency in various sectors. He said AI's ability to analyze vast amounts of data and simulate adversary behaviour enables trainees to improve their decision-making skills and responses to complex situations, such as military operations. He warned that the prospect of AI taking command over weapons systems introduces a paradigm shift in military strategy, potentially revolutionising warfare.

Geopolitical implications

The onset of Cold War 2.0 transcends ideological boundaries, delving into a technological race where mastery over innovations in advanced technologies could dictate strategic advantages. Takach argues that the U.S. has formed an extensive network of alliances with leading global democracies, aiming to counter China's attempts to close the technological gap in advanced technologies. He asserts that these international alliances are critical in balancing power across nations, potentially determining the outcome of Cold War 2.0.

Takach details the strategic roles of the United States, China, and Russia in the geopolitics of Cold War 2.0, noting their pivotal influence on the era's strategic dynamics. He highlights the U.S.'s leadership role within the democratic alliance, particularly its efforts to support Ukraine through NATO and Taiwan if mainland China attacks the island, emphasising its dedication to safeguarding democracy in Europe and Asia. Conversely, China is perceived as a leading force among autocracies, while Russia, despite not having a mutual defense pact with China, sides with it through aggressive tactics, underscoring the divide between democratic and autocratic blocs.

Takach posits that the efficacy of such cooperation remains uncertain in the context of Cold War 2.0. This narrative suggests that technological superiority, particularly in AI, could bolster national defense capabilities, enabling more advanced weaponry and enhanced protection. Ultimately, the success of a nation's military technology could hinge on the quality of its science and technology education and the integration of civilian technology with military applications.

The role of the United States

In Cold War 2.0, the United States plays a central and assertive role, primarily aimed at curbing China's ascent as a technological superpower. The U.S. strategy against China's technological rise encompasses a range of measures designed to throttle China's access to vital

components and technologies, aiming to prevent China from dominating the next technological revolution.

Specifically, there are considerations to limit American investments in Chinese tech firms and to prevent China from utilising American computing technologies and powers for AI development. For example, Gina Raimondo, Secretary of Commerce in Biden's administration, has emphasised the commitment of the U.S. to maintain a technological edge, particularly in the semiconductor and AI sectors, making these critical technologies inaccessible to China.[5] This commitment manifests in the U.S.'s willingness to expand sanctions on China, reflecting a broader strategy to safeguard national security and maintain global technological leadership.

In this strategic contest, the U.S. is not alone; it leads a coalition of allies, including Japan, South Korea, Taiwan and the Netherlands, in semiconductors to counter China's advances in chipmaking. The concerted efforts of the U.S. and its allies to restrict China's tech growth underscore the multifaceted nature of Cold War 2.0, where technological supremacy, economic resilience, and geopolitical alliances intertwine to shape the contours of global power dynamics in the digital age.

China's technological bottlenecks

As detailed in *Cold War 2.0*, China has achieved significant advancements in AI technology and is heavily investing in research and development in this area. Takach contends that China's innovation strategy is characterised by a government-driven, top-down approach. For example, the nation has rolled out various initiatives and programmes to bolster its tech industry. Notable among these are the 'Made in China 2025' programme and the 'New Generation Artificial Intelligence Development Plan.'

Takach argues that the top-down approach to China's tech development might constrain bottom-up innovation and creativity since decision-making and strategic direction are predominantly steered by the government and the vested interest groups benefiting from this model. The government-oriented model may also discourage risk-taking and experimentation, as scientists and entrepreneurs may focus more on aligning with the preferences of the autocratic regime rather than on pursuing groundbreaking and disruptive ideas.

Despite significant investment in technological development, China's tech industry faces a deficit in critical technologies, such as high-performance semiconductor chips, chipmaking equipment and materials, and certain AI capabilities.[6] China's heavy dependence on imported critical components and technologies exposes it to vulnerabilities, particularly the risk of a widespread trade embargo, which could severely disrupt its industry operations.

Indeed, China's efforts to catch up with leading democracies in critical technologies face significant technical barriers. However, Takach overlooks China's strengthening role in the global supply chain, underscored by its control over essential processing technologies for critical minerals, including rare earths, and its vast industrial capabilities.[7] These strengths are vital not only for transforming science and technology into high-tech products, including advanced weapons systems, but also for achieving these goals with substantial cost advantages. Moreover, the escalating tensions resulting from U.S.-led sanctions could potentially provoke retaliation from China.[8]

Implications of Russia-China alliance

In *Cold War 2.0*, Takach groups China and Russia as a *de facto* alliance representing autocratic nations. Takach argues that the synergistic pooling of their technological, military,

and economic resources could provide them with a competitive edge in areas ranging from AI to energy production, fundamentally altering the strategic calculus for other nations.

Such an alliance would not merely represent a bilateral strengthening of ties but would signal a significant shift in the global order. It symbolises a united front of autocratic regimes poised to challenge the democratic world, affecting global geopolitics, security architectures, and the future direction of international cooperation and competition.[9] As a result, it could lead to a more polarised world, where other nations have to realign their international stances, either by joining this emerging bloc or by strengthening the counterbalancing efforts led by the U.S., thus deepening global divisions.

Takach does provide a sufficient historical analysis of the relations between Russia and China, suggesting that trust and mutual commitment, or the absence thereof, could add more complexity to the alliance. Historical precedents, such as their failed cooperation in developing a large aircraft, highlight the underlying tensions and mistrust that could undermine their partnership.

Roles of third-power countries

In *Cold War 2.0*, Takach delves into the precarious position of third-power countries and regions caught in the midst of intense rivalry between global powers. He argues that these countries and regions hold the potential to mitigate rising tensions and foster a spirit of cooperation, thus playing a crucial role in preventing the technological competition from escalating into a full-blown Cold War.

Takach argues that third-power countries and regions like South Korea, Taiwan, and Australia emerge as significant players in this geopolitical chess game. South Korea, with its strategic location and alliance with the United States, acts as a bulwark of democracy in Asia and a counterweight to North Korean ambitions. These third powers can play varied but vital roles in deterring aggression and curbing autocratic influence in the era of Cold War 2.0.

This perspective is echoed by other scholars who explore the dynamics of Cold War 2.0. The complex web of interdependence between nations complicates the notion of a straightforward victory for either side, indicating that the current rivalry is transforming the international order in ways that could affect global connectivity and governance.[10]

Taiwan's crucial role

Takach describes Taiwan as a battleground for technological supremacy, highlighting how its strategic position amplifies its vulnerability to tensions between the U.S. and China. Home to leading tech firms such as TSMC, Taiwanese semiconductor foundries produce nearly 70% of the world's advanced and AI chips, those 7 nm or smaller.[11] This manufacturing prowess renders the island exceedingly valuable to both the U.S. and China.

As argued in *Cold War 2.0*, Taiwan's cutting-edge technological capabilities, especially in the semiconductor industry, position it as a pivotal player in the global supply chain and make it as a potential target for economic coercion. Takach warns that China's ambitions regarding Taiwan may mirror Russia's invasion of Ukraine, aiming to extend its autocratic influence.

Should China gain control over Taiwan, it could potentially impose an embargo or demand exorbitant fees for semiconductor supplies to democratic nations. The island's defense capabilities, alongside alliances with countries sharing similar values, are essential for its survival and play a key role in countering China's expansionist ambitions, as posited by Takach.

Taiwan's crucial role, both geopolitically and as a leader in advanced semiconductor manufacturing, underscores the risk of a new cold war fostering a technological 'iron curtain' that could disrupt industries and economies across the globe. This scenario is indeed perceived as a looming threat with the potential to trigger cascading effects on geopolitical stability. The fallout might see a bifurcation in technological standards and networks, resulting in a fragmented global economy. Such shifts would heighten supply chain vulnerability and economic inefficiency, exacerbating the challenges of recovering from a global economic downturn.

What should Australia do?

In the context of Cold War 2.0, Australia will find itself at a strategic crossroads. As a third-power country caught between the competing interests of the U.S. and China, Australia's role is multifaceted, involving both security and economic dimensions. Aligning closely with the U.S., Australia enhances its security posture through military cooperation, intelligence sharing, and joint exercises, contributing to regional deterrence against aggression. This partnership underscores Australia's commitment to countering China's growing assertiveness in the Indo-Pacific.

However, Australia's economic landscape is intricately tied to China, notably through trade and investment, which introduces a layer of complexity in navigating geopolitical tensions. The reliance on China for critical parts, components, and especially the critical minerals processing capabilities, highlights Australia's vulnerability to potential supply chain disruptions. These economic dependencies necessitate a delicate balance between maintaining national security interests and economic benefits.

The book doesn't offer any concrete advice for Australia. The suggestion for Australia to leverage its participation in international coalitions of democracies is an old cliche that may not be pragmatic in addressing the dual challenge of China's technological ascendancy and its autocratic development model. For Australia to safeguard its interests in both national security and economy, it must maintain an independent foreign policy and participation in international alliances and partnerships, especially technological standardisation, ensuring continued collaboration in science and technology with both the U.S. and China, and collective effort in conquering global challenges such as climate change, public health, and food security. This approach will enable Australia to navigate the delicate geopolitical dynamics of Cold War 2.0, securing its position and interests in a rapidly evolving global landscape.

Limitations

However, *Cold War 2.0* is not without its limitations. The intertwined nature of modern economies underscores the fundamental differences between the economic structures of the two Cold War eras. Hence, the possible impacts of a new version of the Cold War call for a deeper analysis than what Takach offers. The book's analysis could have been enriched by a deeper acknowledgment of the global economy's interconnectedness and the mutual dependencies between democratic and autocratic states, as well as an analysis of their impact on geopolitics. This oversight glosses over the complexities and potential costs of decoupling, an issue that bears significant implications for global economic stability and innovation. Particularly, the potential repercussions of a technology decoupling, in a world where these relationships are increasingly interwoven, represent a critical oversight.

Furthermore, the book does not adequately address the ethical and legal quandaries posed by AI within the framework of Cold War 2.0. These issues are paramount, given their implications for both military and civilian applications. Takach misses the opportunity to delve

into the significant concerns surrounding unintended consequences of AI deployment in combat, especially how to govern AI in nations with nuclear capability, and the imperative for comprehensive ethical guidelines to govern its use. These aspects are crucial for understanding the broader implications of integrating AI into defense mechanisms, where ethical considerations must be balanced against technological capabilities.

By omitting a detailed analysis of these challenges, the book overlooks essential dimensions of the technological competition that defines Cold War 2.0, leaving readers without a full grasp of the potential risks and ethical dilemmas posed by the deployment of advanced technologies in a geopolitical context.

Conclusions

In essence, *Cold War 2.0* is a clarion call to action, underscoring that in the digital age, the realms of technology and geopolitics are inextricably linked, with the fate of nations resting on their ability to navigate this complex landscape. As we stand on the cusp of a new era of global confrontation, *Cold War 2.0* offers valuable insights into the strategic considerations and technological battlegrounds that will define the coming decades. Yet, it also serves as a reminder of the need for a more holistic understanding of the interconnected world we inhabit—a world where the repercussions of a new Cold War will be felt by all, not just the principal antagonists.

The book invited a deeper reflection on the necessity to broaden our analytical perspective beyond traditional state-centric narratives, encouraging scholars and policymakers alike to consider the impact of Cold War 2.0 on localities—regions, cities, and neighborhoods—and vice versa. This approach uncovers the micro-level dynamics that both contribute to and are influenced by the larger framework of the new Cold War's geopolitics and geoeconomics. It suggests a more nuanced understanding of how global tensions manifest and affect the fabric of local communities.

In conclusion, *Cold War 2.0* stands as a pivotal examination of our times, signalling a crucial junction where technology and geopolitics converge, shaping the destiny of nations in the digital epoch. This book not only provides a roadmap to understanding the strategic and technological fronts that will characterise the future landscape of international relations but also underscores the imperative for a comprehensive grasp of our globally interconnected existence. As we teeter on the brink of a renewed global struggle, *Cold War 2.0* illuminates the challenges and opportunities that lie ahead, emphasising that the implications of this modern Cold War extend far beyond the key players to touch every corner of our world.

Notes

1. See the introduction to Robert B. Zoellick. 11th President of the World Bank Group, July 1, 2007 – June 30, 2012. https://www.worldbank.org/en/archive/history/past-presidents/robert-bruce-zoellick. Accessed March 27, 2024.
2. See details in the article, 2015: The Year US-China Relations Went Public. Accessed March 27, 2024. https://thediplomat.com/2015/12/2015-the-year-us-china-relations-went-public/.
3. In a 2018 interview with the *Financial Times*, Henry Kissinger, the former U.S. Secretary of State, cautioned that the United States and China were entering the 'foothills of a Cold War.' https://www.henryakissinger.com/interviews/lunch-ft-henry-kissinger/, accessed on March 27, 2024.
4. See details in the article, Schindler, S., I. Alami, J. DiCarlo, N. Jepson, S. Rolf, M. K. Bayırbağ, L. Cyuzuzo, M. DeBoom, A. F. Farahani and I. T. Liu. 2023. 'The Second Cold War: US-

China Competition for Centrality in Infrastructure, Digital, Production, and Finance Networks." *Geopolitics*. 1–38.

5. See details in the report. Accessed March 27, 2024. https://www.commerce.gov/news/speeches/2024/02/remarks-us-secretary-commerce-gina-raimondo-investing-leading-edge-technology.
6. See details in the article, Zhang, M. 2023. "Can China Achieve Semiconductor Self-Sufficiency?" Accessed April 22, 2024. https://nationalinterest.org/blog/can-china-achieve-semiconductor-self-sufficiency-206584.
7. See details in the book, Zhang, M. Y., M. Dodgson and D. Gann (2022). *Demystifying China's Innovation Machine: Chaotic Order*. Oxford: Oxford University Press.
8. See details in the article, Zhang, M. 2023. "China's Export Restrictions on Germanium and Gallium Shake Up Global Order." Accessed March 27, 2024. https://nationalinterest.org/blog/techland/china%E2%80%99s-export-restrictions-germanium-and-gallium-shake-global-order-206647.
9. See details in the article, Chotiner, I. 2022. "Why John Mearsheimer Blames the U.S. for the Crisis in Ukraine." Accessed April 22, 2024. https://www.newyorker.com/news/q-and-a/why-john-mearsheimer-blames-the-us-for-the-crisis-in-ukraine.
10. See details in the article, Schindler, S., I. Alami, J. DiCarlo, N. Jepson, S. Rolf, M. K. Bayırbağ, L. Cyuzuzo, M. DeBoom, A. F. Farahani and I. T. Liu 2023. "The Second Cold War: US-China Competition for Centrality in Infrastructure, Digital, Production, and Finance Networks." *Geopolitics*. 1–38.
11. Global Semiconductor Foundry Market Share: Quarterly, September 2023. Accessed March 27, 2024. https://www.counterpointresearch.com/insights/global-semiconductor-foundry-market-share/.

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