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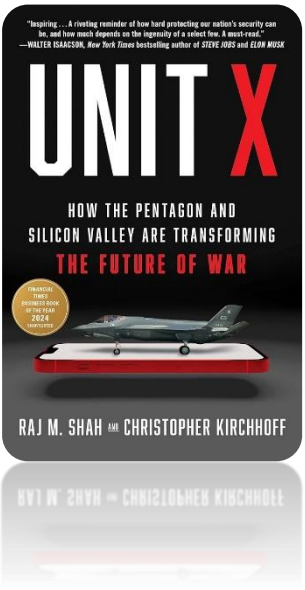

Raj M. Shah and Christopher Kirchhoff, *Unit X: How the Pentagon and Silicon Valley are Transforming the Future of War* (California: Scribner, July 2024), pp. 336.

Reviewed by Mustafa Bilal

Unit X is co-authored by Raj M. Shah and Christopher Kirchhoff, both seasoned American national security officials. In the book, they cast themselves as a high-tech Special Forces group waging an internal battle against the world's largest and most entrenched bureaucracy: the Pentagon. The book gives a frontline perspective of the battle between 21st Century Technology and 20th Century bureaucracy.

But why did the leaders of Unit X decide to take on a leviathan like the Pentagon?

Shah and Kirchhoff warn in the introduction that the technological edge of the United States (US) military has been crumbling (p.13). They argue that decades of suffocating red tape, over-reliance on slow-moving defence contractors, the 'primes', and a total cultural disconnect from Silicon Valley's innovation engine has left a big technological chink in the armour of US (pp.15-17). Consequently, the authors write that the US 'might very well suffer an outright defeat' against China in a potential conflict (p.14).

The panacea to avert this catastrophe? Unit X or the Defence Innovation Unit Experimental!

Unit X was envisioned by U.S. Defense Secretary Ash Carter to inject Silicon Valley's agile DNA into the 'clogged arteries' of the Department of Defense (DoD). The authors refer to this as 'hacking the Pentagon', and this book is their raw, boots-on-the-ground report.

The strength of the book's narrative is insider access as Shah and Kirchhoff take the readers into the trenches alongside them. The opening chapters pull readers straight into the heart of the Pentagon's bureaucratic maze, exposing hurdles like 'zeroisation': a process where junior congressional staffers can wipe out the budget of entire programs like Unit X with a single pen stroke (p.34). The authors paint a striking image of U.S. Air Force crews in Qatar juggling life-or-death midair refuelling missions

tracking aircraft not with cutting-edge tech, but with pucks on a whiteboard (p.56). They go on to share stories of scrappy startups like Capella Space, whose revolutionary ideas are quietly derailed by entrenched Pentagon gatekeepers (p.88).

Shah and Kirchhoff recount how Unit X took on the system and found the system hit back even harder. Yet, through the team's ingenuity and grit, they managed to notch key victories. Among them was their use of creative legal workarounds like the 'Other Transaction Authority,' which allowed them to sidestep the Pentagon's notoriously sluggish procurement quicksand (p.100).

Structurally, the book thus reads like a mission log: near-death budget cuts, then hard-fought victories. But this 'next mission' pacing sidelines deeper questions in the individual chapters, like whether startups can truly compete with the 'primes' or what happens when commercial technology is weaponised?

The book has several key takeaways. First, the Pentagon exposé goes into brutal detail, which offers an illuminating account of institutional paralysis. Second, the cultural divide: Pentagon Brass saw Valley engineers as naive; the engineers saw the Pentagon as technologically backwards and morally shady. Bridging that gap was half the victory for Unit X by facilitating 'cultural exchanges' between the Pentagon and Silicon Valley (p.171). Third, China is repeatedly portrayed as an existential threat to the US (*China is mentioned 225 times in the book*). The authors club China's 'civil-military fusion' strategy with criticism of authoritarian systems, while ironically advocating for the same strategy to be emulated in the US to leverage its 'unique advantages' (p.170). Fourth, the Russo-Ukrainian war validated Unit X's foresight: commercial satellites tracking Russian tank movements, AI-powered targeting systems, and swarms of low-cost drones overwhelming traditional military hardware; precisely the kind of warfare the team had long warned was coming (pp.189-206).

But where does the book stumble?

The insider view, while insightful, is also the book's blind spot. The authors make a case for radical reforms in the Pentagon. But their case is one-sided as the readers are only locked into their perspective, whereas voices from the 'threatened' defence contractors, ethically uneasy Silicon Valley folks, or resistant Pentagon factions, get flattened into caricatures, like the 'two small-minded appropriations staffers' - Evelyn and Ed (p. 217). Moreover, while the authors mention Silicon Valley's post-Snowden protests and Google's Project Maven revolt, their dismissal of ethically concerned engineers as 'hopelessly naïve' (p.117) dodges the real debate about autonomous weapons and Big Tech's entanglement in modern warfare made even more urgent by the AI-enabled devastation witnessed in Palestine. Moreover, the book does not address how warfare would 'transform' when AI and drone swarms become mainstream, as demonstrated by Ukraine's Operation Spiderweb.

Relatedly, while repeatedly stressing the argument that beating China demands disruptive innovation and public-private partnerships (PPPs), the authors obsess over how to get the latest technology into the hands of the Pentagon, burying deeper questions like how to go about controlling it in the age of algorithmic war. Controversial defense-tech unicorns like Palantir and Anduril also frequently share the spotlight in the book, but again, the focus of the authors stays on adopting tech, not exploring its dark side.

Silicon Valley also gets a free pass on controversies over monopolistic practices and data privacy; these issues are glossed over. Rather, the book is heavy on tactical operational details like maritime domain awareness by saildrones (pp.110-114). Overall, the authors soft-pedal Silicon Valley's flaws, sometimes oversell its victories, and sidestep the ethical grenades they toss. As one critic quoted in the book warned, we still need 'hardcore production of serious weaponry' (p. 202). While the authors explore this tension, they again do so without incorporating opposing perspectives (pp. 200-204).

Nonetheless, despite its shortcomings and rather one-sided picture, *Unit X* is essential reading, especially for those interested in defence technologies, entrepreneurship, and organisational reforms. The book forces the readers to stare into the abyss, the so-called Pentagon's 'valley of death', which is the final resting place for technological prototypes that never make it to deployment because of outdated bureaucratic procedures and processes (p.17). The authors shed light on just how deep the valley is, leaving readers with two concerning questions for international security: can the US weld steel to silicon fast enough, and ethically enough? And will this innovation prevent global conflict… or ignite it? (p.205). With the world on edge, we may find out sooner than we would like.

Mustafa Bilal is a Research Assistant at the Centre for Aerospace & Security Studies (CASS), Islamabad. He has done his BS in International Relations from the National Defence University (NDU), Islamabad. His research interests include technopolitics, astropolitics, military aviation and warfare. Email: <bilal.mustafa@casstt.com>.