



Australian Army Research Centre

Spotlight Brief

No. 7, 2021

Edited by Mark O'Neill, Lindsay O'Connor
and Kieran McInerney



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Research Centre**

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Serving our Nation

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Our Region

Missile Developments in South Asia: A Perspective from Pakistan

Missile Developments in South Asia: A Perspective from India

[The International Institute of Strategic Studies](#) — May 21

[The International Institute of Strategic Studies](#) — June 21

This pair of papers present the ongoing missile development in South-West Asia from alternative viewpoints. The expansion of India and Pakistan's missile systems reflect ongoing tension and possible conflict points between these two nations and, in India's case, China. Both authors highlight the critical role in deterrence role the missile armouries provide and their political signalling capability. There are several common points: of note are the dual threat focus of India versus the single focus of Pakistan, the technological shift underway to solid-fuel and hypersonic missiles, the increased push for missile survivability, and the role of nuclear weapons. The dual views provide a thorough view of one of the Indo-Pacific's potential hotspots, as well as interesting perspectives on deterrence and the role of long-range fires.

Related:

['Troops from China, Pakistan, Two Other Countries End Exercise,' Dawn,](#) 16 Sep 21

['The Real Winner of the Afghanistan War? It's Not Who You Think,'](#) *The New York Times*, 25 Aug 21

['India Focus on Enhancing Maritime Security as the UNSC President: Leadership Envisioning A Global Roadmap,'](#) *Observer Research Foundation*, 26 Aug 21

['The EU-India Connectivity Partnership: Can Brussels Step Up Its Connectivity Game in the Indo-Pacific?'](#) *Observer Research Foundation*, 16 Sep 21

['India in Central and Eastern Europe: From Non-Alignment to Multi-Alignment.'](#) *Observer Research Foundation*, 13 Sep 21

['India's Security Choices During the COVID-19 Pandemic.'](#) *Observer Research Foundation*, 02 Sep 21

Unlikely Allies? Australia, Indonesia and the Strategic Cultures of Middle Powers

Asian Security — Nov 20

This article analyses the differing strategic cultures, policies, and perspectives of Australia and Indonesia. In doing so it seeks to evaluate the prospects for the military relationship between the two neighbours. Traditionally, Australia has been outward oriented and has relied on powerful alliances, whereas Indonesia has been more inward looking and preoccupied with domestic security. The authors argue there has been a recent convergence of strategic cultures between these regional middle powers, raising the possibility of enhanced military cooperation. While believing a formal mutual-defence pact is unlikely, they suggest other forms of cooperation. Specific recommendations include inviting Indonesia to regularly participate in Operation Talisman Sabre, enhancing weapons procurement programmes (especially given both states' commitment to enhance their naval capabilities), and sharing of maritime surveillance data. The article concludes the 'immutable nature of sheer geography creates powerful incentives to cooperate.'

Related:

['Diagnosing Indonesia's Health Challenges.'](#) *The Interpreter*, 14 Sep 21

['Indonesian Troops May Regularly Join Training on Australian Soil as Defence Ties Deepen.'](#) *The Guardian*, 09 Sep 21

['Indonesia Unprepared as Great Powers Clash in Indo-Pacific.'](#) *Foreign Policy*, 26 Aug 21

['Why Northern Australia Must Play a Part in Indonesia's Grand Infrastructure Rollout.'](#) *The Strategist*, 24 Aug 21

['Rollout of the COVID-19 Vaccination Campaign in Indonesia: Progress to Date, Emerging Challenges, and Priority Actions in Coming Months.'](#) *Observer Research Foundation*, 19 Aug 21

Evolving Geo-strategic Dynamics

The Missile Defense ‘Arms Race’ Myth

Strategic Studies Quarterly — Spring 21

There has been a drastic increase in ballistic missile arsenals within the Indo-Pacific Region in the last decade. A natural response to this threat would be for Australia to invest heavily in missile defence systems. Some have argued that this will only lead to an arms race: spending money, time, and energy on missile defence will simply prompt potential adversaries to escalate the threat. Matthew Costlow deploys historical and contemporary evidence to scrutinise this logic. Drawing from the dynamic between the United States and Russia, and the United States and China, Costlow suggests there is little empirical evidence to support the prototypical action-reaction narrative. Whilst perhaps counter-intuitive, his argument supports the idea that we should eschew simplistic arms race rhetoric and ‘focus instead on the unique cultural, historical, and bureaucratic factors the influence threat perceptions, technological innovation, and weapons procurement.’

Related:

‘Australia to Develop New Air Defence Capability,’ *Shephard*, 21 Sep 21

‘Aus-US Military Partnership to Enhance Long-Range Precision Fire Capabilities,’ *The Mandarin*, 25 Aug 21

‘Do Not Forget U.S. Missile Defense Gaps in This Year’s NDAA,’ *Real Clear Defense*, 31 Aug 21

‘Why is South Korea developing an Israeli-style Iron Dome?’, *Al Jazeera*, 16 Jul 21

‘Missile Defense Strategy, Policies, and Programs in Review of the Defense Authorization Request’, *Carnegie Endowment for International Peace*, 09 Jun 21

Competing With Russia Militarily

RAND Corporation — Jun 21

Perceptions of Russia as a threat have risen sharply in recent years, bolstered by its acts of military aggression, political interference and efforts to expand its global influence. This report assesses how a military confrontation between NATO and Russia may transpire. It begins by noting NATO does not currently present a credible conventional deterrent to prevent Russia from attacking its Baltic neighbours (Estonia, Latvia, and Lithuania). It asserts Russia could quickly overwhelm these countries, reaching the outskirts of their capitals within 60 hours. The report explains that Russia possesses several key advantages in the early stages of a war. These include geographical proximity and the fact that the three largest non-U.S. contributors to NATO (the UK, France, and Germany), would struggle to field a single armoured brigade each. This raises important questions about the importance mass still holds. Russia's electronic warfare, cyber, and counter-space capabilities would also pose a significant threat to NATO countries' C4ISR capabilities. However, the report concludes that Russia's current ground force structure and posture do not present an obvious path to defeating NATO in an extended conventional conflict. The possibility of escalation to nuclear war casts a shadow over any NATO/Russian military confrontation, and the report delves into this scenario. The report concludes with a list of five policy implications and suggestions for the United States and its allies.

Related:

'Russia Votes: State Duma Elections 2021,' *Observer Research Foundation*, 16 Sep 21

'Russia Holds the Largest Military Exercise in Europe for 40 Years,' *The Economist*, 13 Sep 21

'Contours of Russia's Creeping Expansionism in Africa,' *Observer Research Foundation*, 26 Aug 21

'Afghanistan: Russia Faces its Own Risks and Uncertainty,' *The Interpreter*, 10 Aug 21

'Russia and Vietnam: An Alliance of Convenience,' *The Interpreter*, 02 Aug 21

More than Half the Battle

Center for a New American Security — May 21

This report argues that the current American approach to war is an attempt to return to the dominance of the 1990s, but this fails to recognise competitors have developed their own theories of warfare that counteract these advantages. It proposes radical reform must occur within the information and command spheres. In attempting to impose order, US military theories are likely to fail. Rather, they should strive to thrive within chaos, achieving 'degradation dominance' instead. This is an idea relevant to the ADF as it further develops C2 doctrine.

Related:

'Losing Small Wars: Why US Military Culture Leads to Defeat', *Small Wars Journal*, 12 Sep 21

'Confronting Chaos: A New Concept for Information Advantage', *War on the Rocks*, 09 Sep 21

'Combatant Commands Worry About Service JADC2 Stovepipes', *Breaking Defense*, 31 Aug 21

'Mission Command and Artificial Intelligence: Obstacles to Integration', *Land Power Forum*, 01 Jul 21

'The connected battlespace, part two: The fault in our (joint) stars', *ARS Technica*, 09 Feb 21

Strategy

Land Operations and Competing Perspectives on Warfare

Comparative Strategy — Jul 21

Niklas Nilsson's article explores how different conceptualisations of the character of warfare have given rise to conflicting ideas about the contemporary role and mission of land forces. Some perspectives validate the continued relevance of conventional land operations, whilst others imply that they are not as useful as in the past. Nilsson presents the prevailing Cold War conceptualisation, then four modern competing perspectives on the nature of war. Nilsson explains the four subsequent modern conceptualisations of warfare are:

1. Revolution in Military Affairs (RMA) — Progress with computer technology and sensor systems enables an unprecedented degree of coordination of precise military strikes and remote combat.
2. New Wars — Military action is largely intrastate and targeted against civilian populations, involving non-regular and low technology participants.
3. Counterinsurgency (COIN) — Modern war primarily involves fighting irregular groups of insurgents who are employing primitive weapons.
4. Hybrid — Adversaries mix regular with irregular warfare, utilising certain high-technology equipment to conduct information warfare, exert economic pressure, and employ a range of other kinetic and non-kinetic techniques.

Related:

['Can the US Army Transform Without A New Approach to Warfare?'](#)
Breaking Defense, 16 Sep 21

['British Army Outlines Battlefield of Tomorrow,'](#) *Mirage*, 15 Sep 21

['Land Forces, Irregular Warfare, and a New Strategic Landscape'](#),
Modern War Institute, 30 Jul 21

['Tanks Are Here To Stay: What the Army's Future Armored Fleet Will Look Like,'](#) *Defense News*, 15 Jul 21

['To Survive, Deceive: Decoys in Land Warfare,'](#) *War on the Rocks*, 22 Apr 21

Speaking of Hybrid Warfare: Multiple Narratives and Differing Expertise in the ‘Hybrid Warfare’ Debate in Czechia

Cooperation and Conflict — Mar 21

While ‘hybrid warfare’ has become a focus of Western strategic thought over the past decade, fundamental ambiguity remains about the term. Jan Daniel and Jakub Eberle attempt to unpack this concept by building a framework for evaluating security narratives. Applying this framework to the case of Czechia, they discern three distinct narratives generating conflicting definitions of ‘hybrid warfare.’ They then attempt to develop a tangible way forward by ascertaining how each of these definitions can address contemporary concerns. If we do not settle on an agreed definition for the concept of hybrid warfare, the risk of over-securitisation of government policy is very high. Daniel and Eberle’s narratives (defence, counter-influence, and education) step outside the Department of Defence’s remit, reinforcing that one Department alone is unlikely to defeat a hybrid threat.

Related:

‘UK’s Future Force to Lean Heavily Into Robotics, AI and Hybrid Power.’
Defense News, 17 Sep 21

‘Expulsion of Russian Diplomats Exposes Hybrid War in Czechia’, *Visegrad*,
22 Apr 21

‘The Nine Commandments on Countering Hybrid Threats’, *Internationale Politik*, 22 Apr 21

‘Hybrid War and What to Do About It’, *The Strategy Bridge*, 21 Apr 21

‘Democracy: Between Fights for Freedom and Against Hybrid Warfare’,
Young Initiative on Foreign Affairs and International Relations, 16 May 20

COVID-19: Observations for Contemporary Strategists

Defence Studies — Mar 21

James Wirtz seeks to illuminate some of the lessons from the COVID-19 pandemic. He asserts COVID-19 cannot be characterised as an intelligence failure, as the threat of pandemic was foreseen and analysed in security studies literature. Wirtz identifies the global response to the pandemic as an example of a 'spiral model', where real-world events outpace 'political time' (defined as the time needed by officials to accurately assess the situation and respond effectively). The pandemic also casts new light on assumptions concerning biological weapons. It demonstrates that it is difficult to target a specific population (or part of a population) with a contagious agent, and that genetic engineering can rapidly develop defences against biological attack.

Related

'The Scourge of the Pandemic on Children in South Asia.'

Observer Research Foundation, 14 Sep 21

'A Blockchain Solution to COVID-19 Scams.' *The Interpreter*, 07 Sep 21

'The World Isn't Ready for the Next Outbreak.' *Foreign Affairs*, 06 Sep 21

'COVID-19, Disinformation and Hateful Extremism', *RAND*, 14 Jul 21

'Pandemic On Our Northern Doorstep Likely To Get Worse.' *ASPI Opinion*, 08 Mar 21

Democratic Deterrence: How to Dissuade Hybrid Interference

Washington Quarterly — Mar 21

While the ADF is aware of the threat posed by hybrid warfare, Mikael Wigell argues attention should also be focussed on the more subtle ‘hybrid interference’ that has started to impact liberal democracies. Some regimes have used hybrid interference to manipulate Australia’s democratic institutions and society. Such carefully crafted attacks avoid the use of overt means to maintain plausible deniability and amplify political, ideological, economic, or other social polarisations within society. Another central element of hybrid interference is subversion, which involves an aggressor purposefully destabilising or undermining the authority of a target state by using local proxy actors. Wigell suggests the most robust way to counter hybrid interference is through deterrence. Some measures that do not involve escalation include attribution, distilling doubt concerning Australia’s level of response, and the wielding of soft power. Wigell asserts hybrid interference also requires a whole-of-society response, which he labels ‘democratic deterrence.’ The second half of his article is devoted to elucidating how this mechanism can minimise vulnerability to hybrid interference and ensure Australia remains robust and resilient.

Related:

‘Hybrid Wars: Technological Advancements and the Generational Evolution of Warfare,’ *Small Wars Journal*, 09 Aug 21

‘Learning in the grey zone: how democracies can meet the authoritarian challenge,’ *The Strategist*, 22 Jul 21

‘Cyber-Attacks: What Is Hybrid Warfare and Why Is It Such A Threat?’ *The Conversation*, 21 Jul 21

‘Defending Democracies From Disinformation and Cyber-Enabled Foreign Interference in the Covid-19 Era,’ *ASPI Journal Article*, 12 April 21

‘Enlarging NATO’s Toolbox to Counter Hybrid Threats,’ *NATO Review*, 19 Mar 21

Negotiating [Im]plausible Deniability: Strategic Guidelines for US Engagement in Modern Indirect Warfare

Prism — 2021

Indirect attacks are a primary tactic in geopolitical competition. Australia has persistently had its interests challenged by competitors utilising hackers, proxies, and cyber-driven information campaigns. One reason these methods are becoming more common is because they are difficult to attribute, conferring adversaries a level of plausible deniability. While most commentators believe that indirect attacks pose a substantial threat to liberal democracies, the authors of this paper argue they may present an opportunity Australia can leverage. Direct attacks often evoke a strong public demand for a military response, cornering politicians into escalatory retaliation. Conversely, the point out indirect attacks provide space for policymakers to eschew escalation in favour of a response that is more measured and diplomatic. Reasons politicians may want to step down from the brink include the desire to avoid armed conflict, sidestepping the domestic pains associated with state-based war, avoiding the associated economic burden, protecting intelligence sources, and not wanting to legitimise the transgression. Moreover, such an approach affords the chance to render plausible deniability 'implausible'.

Related:

'Winning the Cyber War with Collective Defense,' *Security Boulevard*, 21 Sep 21

'ASPI's Decades: Cybersecurity,' *The Strategist*, 20 Sep 21

'We Are At War; A Cyber War,' *Security*, 20 Sep 21

'ANZUS at 70: Cyberspace,' *The Strategist*, 20 Sep 21

'New Battleground: Cyber Attacks Targeting Australia's Health System,' *The Sydney Morning Herald*, 14 Sep 21

The Theory and Practice of New Generation Warfare: The Case of Ukraine and Syria

Journal of Slavic Military Studies — Dec 20

Western military strategists have tried to explain Russia's contemporary approach by introducing concepts such as the 'Gerasimov Doctrine', hybrid warfare, non-linear warfare, fourth-generational warfare, and grey zone tactics. Jānis Bērziņš argues it is counter-productive to confine Russian strategy within these artificial Western frameworks. Instead, Bērziņš seeks to clarify a Russian way of warfare by elucidating Russian concepts and theoretical developments. He goes into considerable detail analysing Russian 'subthreshold' or 'new-generation' warfare (although he stresses it is not new), explaining how it is comprehensive and multi-layered. According to this article, planners should be careful not to frame Russian military thought within a Western cultural or strategic lens when attempting to counter these tactics.

Related:

'Zapad 2021: What We Learned From Russia's Massive Military Drills',
The Moscow Times, 23 Sep 21

'Waves of Ambition: Russia's Military Build-Up in Crimea and the Black Sea.'
European Council on Foreign Relations, 21 Sep 21

'ZAPAD-2021: What To Expect From Russia Strategic Military Exercise.'
War on the Rocks, 08 Sep 21

'Grand Illusions: The Impact of Misperceptions About Russia on U.S. Policy',
Carnegie Endowment for International Peace, 30 Jun 21

'Russia's Entry to Sixth-Generation Warfare: the 'Non-Contact' Experiment in Syria', *The Jamestown Foundation*, 29 May 21

Technology is Awesome, but so What?! Exploring the Relevance of Technologically Inspired Awe to the Construction of Military Theories

Journal of Strategic Studies — Jun 21

Techno-centric theories of warfare litter the previous century of military-strategic thinking — each promising the end of all that came before through the advent of new technology. Air power in the 1930s and nuclear weapons in the 1950s are major examples, but even simple things like the idea of the guided missiles ending tanks, aircraft or ships are demonstrative. Samuel Zilnick attempts to explain this trend based on the emotional impact of them, focusing specifically on how awe of new tech overpowers thinking that is more integrated.

Related:

“Over-The-Horizon Operations” in Afghanistan’, *Articles of War*, 08 Sep 21

‘The Taliban, not the West, won Afghanistan’s technological war’, *MIT Technology Review*, 23 Aug 21

‘Let’s Get Real About US Military ‘Dominance’’, *Defense One*, 01 Apr 21

‘Tools Are Not Strategies: A Short Guide on Artificial Intelligence for Defense Professionals’, *Modern War Institute*, 19 Mar 21

‘To End the Forever Wars, Rein in the Drones’, *Just Security*, 16 Feb 21

Economy

NATO's Two Percent Guideline: A Demand for Military Expenditure Perspective

Defence and Peace Economics — Jun 2021

The United States frequently encourages allies to spend at least two percent of their Gross Domestic Product (GDP) on defence expenditure. Australia currently achieves this target. Juuko Aloziuous' article briefly surveys both criticism and praise the two percent target receives. It investigates whether the European Union's fiscal rules prevent some NATO states from reaching this spending objective. Aloziuous notes countries can adjust the nominal amount that they spend on defence by simply altering their accounting methods. For instance, they may broaden their defence portfolios to include other areas that already receive funding (as the United Kingdom has done). Aloziuous' conclusion is it would be better to focus discussions of burden sharing on capability acquisition, rather than the somewhat arbitrary and opaque two percent monetary measure.

Related:

'EU Army Cost: The Biggest and Smallest European Military Spenders — Data.' *Express*, 16 Sep 21

'Striking a balance on funding', *Business News*, 27 Jul 21

'2021 Defence Budget At A Glance.' *Australian Defence Magazine*, 11 May 21

'SIPRI Fact Sheet April 2021: Trends in World Military Expenditure, 2020.' *Relief Web*, 25 Apr 21

'Asian Military Spending: A Sign of Worsening Security Environment.' *The Diplomat*, 04 Mar 21

People, Culture and Ethics

Training Strategies for Sustaining Operator Attention in Automated Systems for Canadian Armed Forces Environments

[Defence Research and Development Canada](#) — Mar 21

The expanded use of automation in the military has altered the role of some operators from one of *active controllers* to *passive monitors* — attentive to displays, and acting only in the event of imminent problems. Operator sustained attention (vigilance) is defined as the ability to maintain attention and remain alert to stimuli over prolonged periods. Research has shown vigilance deteriorates over time, which can produce catastrophic results. This study, investigates research countermeasures to enhance operator sustained attention performance. The test strategies include motivational feedback, cueing, signal amplification, rest breaks, supervisor presence, working with others, caffeine, transcranial direct current stimulation, and practice. While the use of caffeine (coffee) is already an almost universal practice amongst staff in Russell Offices, the other techniques described may have wide utility across the Army.

Related:

[‘Royal Navy Will Be Getting Autonomous Machines for Donkey Work Humans Can’t Be Bothered With,’](#) *The Register*, 17 Sep 21

[‘Army Researchers Seek to Provide More Data to Soldiers Through Two Projects,’](#) *Defense News*, 04 Sep 21

[‘Army Pursues New Virtual Soldier Training for Future War,’](#) *New Channel 21*, 08 Sep 21

[‘Military Drone Testing Could Lead to Future Deployments and Roles,’](#) *Nextgov*, 25 Aug 21

[‘Robots were supposed to take our jobs. Instead, they’re making them worse,’](#) *Vox*, 02 Jul 21

The Future of Work Is Through Workforce Ecosystems

Sloan Management Review — 2021

This article highlights developing employment and workforce trends. It then proposes an organisational structure to help leaders better manage the changes driven by technological, social, and economic forces. Almost all these observations apply to Army or the Department of Defence more broadly. Today's workforces stretch beyond employees, to include contractors, gig workers, professional service providers, application developers and others. This makes maintaining an organisation's alignment with its values and creating a consistent culture more difficult due to the large proportion of the workforce not being employees. The authors argue best practice for dealing with a diverse workforce is conceptualising these shifts through a workforce ecosystem lens. Instead of asking "What workforce do I need for my strategy?" workforce ecosystems enable leaders to ask: "What strategy is possible with my workforce?"

Related:

'ASC Launches Talent Pool to Redeploy Submarine Workers.' *Australian Defence Magazine*, 21 Sep 21

'Smooth Transition to Full-Time Service.' *Australian Department of Defence*, 17 Sep 21

'Semiconductors: The Skills Shortage.' *The Interpreter*, 15 Sep 21

'How the United States Army Is Leveraging AI: Interview With Kristin Saling, Chief Analytics Office & Acting Dir., Army People Analytics.' *Forbes*, 28 Aug 21

'Defence Should Lead from the Front to Solve Industry Workforce Shortage.' *The Strategist*, 13 Aug 21

The Philosophy of Be, Know and Do in Forming the 21st-Century Military War-Front Competencies: a Systematic Review

Defence Studies — Jun 21

Devika Sangwa and Punita Raj consolidate the competencies required by a future combatant from across hundreds of pieces of work into a clearer model for implementation: Be, Know and Do. This model focuses on character and values (Be), knowledge and competence (Know) and decisions and actions (Do). These characteristics neatly align with existing Army models for training, so there is value in the consolidation and discussion around the attributes of each. Sanwa and Raj's study highlights that the future combatant is much more than just physically able, with cognitive ability and adaptability being essential to the well-rounded individual they must be.

Related:

'Ensuring the ADF can make a rapid transition to war', *The Strategist*, 15 Sep 21

'Change is critical for our future', *The Australian*, 01 Jun 21

'Are Augmented Humans the Future of War?', *The Diplomat*, 05 May 21

'Transforming', *The British Army*, 22 Mar 21

'Transforming Installations to Meet the Future', *Association of the United States Army*, 22 Mar 21

Future Urban Conflict Technology and the Protection of Civilians

Stimson Center — Jun 21

A common view in Western militaries is urban operations are likely to feature increasingly in future warfare. This poses challenges to the Australian Army, in terms of not only mass, but also the requirement to protect civilians, and then administer the area afterwards. This article looks at options for land forces to fight through and protect civilians, while mitigating and using emerging technology that will both assist and complicate matters.

Related:

'Developing Basics for Future Urban Operations', *Wavell Room*, 25 Aug 21

'The Battle of Shusha City and the Missed Lessons of the 2020 Nagorno-Karabakh War', *Modern War Institute*, 14 Jul 21

'Urban Battlefield', *Indo-Pacific Defense Forum*, 18 May 21

'Urban warfare: an age-old problem in need of new solutions', *International committee for the Red Cross*, 27 Apr 21

'Protection of Civilians and the Future of Urban Warfare', *Peace Research Institute Oslo*, 07 Apr 21

Force Design

Scenario Planning Methodology for Future Conflict

[Journal of Indo-Pacific Affairs](#) — Mar 21

Scenarios are part of Australia's military capability planning process. Army planners conduct experiments and analysis to assess the Army's capability and capacity against possible future challenges. Scenario planning can ensure that the Army has appropriate personnel and capabilities to respond to security threats. In this article, Andrew Dowse outlines *Feasible Scenario Spaces*, a new tool the ADF is using to assist with scenario planning. Dowse highlights the benefits of this methodology and demonstrates its practical utility. He asserts *Feasible Scenario Spaces* can support future force-structure decision making by distilling complex scenarios and focusing on the set of parameters that a given capability can achieve.

Related:

['Air Force Begins Construction of Simulation and Wargaming Facility for Space and Lasers.'](#) *C4ISR Net*, 17 Sep 21

['Exploring Alternative Futures.'](#) *Yale Insights*, 15 Sep 21

['Wargaming: A Tool For Naval Intelligence Analysis.'](#) *Center for International Maritime Security*, 14 Sep 21

['Russia Mounts Wargames on NATO Border As Belarus Seeks Weapons.'](#) *Bloomberg*, 13 Sep 21

['New War-Gaming to Speed Up Weapon Deliveries to US Marines.'](#) *Defense News*, 08 Sep 21

Re-thinking Operational Depth — A Source of Power

Comparative Studies — 2021

Deterrence features as a critical element of Australia's 'Defence Strategic Update 2020.' Anders Ekholm contends that militarily inferior actors can manipulate and extend their operational depth to deter stronger aggressors. The description of operational depth in the article is as an actors' ability to project power, absorb force, and maintain the capacity to manoeuvre defensive coercive tools. Rather than understanding Australia's operational depth as a fixed feature, Ekholm explains operational depth can be a flexible asset. He emphasises the cognitive component of deterrence and points out inferior actors can exploit the cyber and information domains to inflict disproportionate damage. Ekholm uses historical examples throughout his discussion to illustrate his claims.

Related:

'Transforming Defence and Defence Industry.' *The Mandarin*, 21 Sep 21

'Ensuring the ADF Can Make A Rapid Transition to War.' *The Strategist*, 15 Sep 21

'Less Door-Kicking, More Resistance: Inside Army SOF's Return to Unconventional Warfare.' *Defense News*, 10 Sep 21

'Defence Rethinks Space Surveillance Roadmap.' *Australian Defence Magazine*, 09 Sep 21

'Getting Out of Our Defensive Crouch: Developing Australia's Asymmetric Warfare Capability.' *The Strategist*, 30 Jun 21

Deterring Disinformation? Lessons from Lithuania's Countermeasures Since 2014

Hybrid Centre of Excellence — Apr 21

Recent military aggression has typically occurred synchronously with an attack in the information domain. For instance, an unprecedented volume of propaganda and disinformation accompanied Russia's annexation of part of the Ukraine in 2014. Disinformation seeks to shape the international community's perceptions of the conflict and create tensions in the target society. Vytautas Kersanskas' article hypothesises that it is possible to deter disinformation campaigns. He divides countermeasures between those that deny such attacks (resilience building) and those that impose costs on aggressors. Some of these tactics include tightening media regulations, funding specific academic research, and creating regulatory bodies that act strictly according to democratically established rules. Kersanskas' paper details the mechanisms that Lithuania has successfully adopted to combat Russia's information campaign.

Related:

'The Political Effects of Social Media Platforms on Different Regime Types,'
War on the Rocks, 01 Jul 21

'Behavioural Economics Doesn't Have To Be A Total Loss,' *Bloomberg*,
27 Aug 21

'Influence For Hire: The Asia-Pacific's Online Shadow Economy,'
The Strategist, 10 Aug 21

'Disinfopreneurs and Infodemics,' *The Interpreter*, 09 Aug 21

'Keeping PNG Connected By Investing in Radio,' *The Interpreter*, 03 Aug 21

The Future of the NATO Corps

RUSI — Jan 21

The importance of the NATO Corps arguably waned with the fall of the Soviet Union and the GWOT. With geopolitical shifts, this is changing; highlighting the role of the Corps has increased in complexity since 1991. The role of Corps in multi-domain operations, deep fires, sustainment and (in NATO's case) combining different nations are all issues of interest.

Related:

'Close to the Wind: Too Many Cooks, Not Enough Broth', *Center for European Policy Analysis*, 09 Sep 21

'Improving The Battle Rhythm To Operate At The Speed Of Relevance — Analysis', *Eurasia Review*, 27 Jul 21

'Tempo, Cohesion, and Risk: Towards a Theory of Multi Domain Warfare', *The Wavell Room*, 18 Jun 21

'Options to Build U.S. Army Headquarters Elements for Large Scale Combat Operations', *Divergent Options*, 5 Apr 21

'U.S. Army Europe and Africa Headquarters: Reforming for Future Success', *War on the Rocks*, 16 Feb 21

Science, Technology and Industry

An Interoperable Information Umbrella: Sharing Space Information Technology

Strategic Studies Quarterly — 2021

Particularly pertinent in light of the recent AUKUS agreement, Mariel Borowitz discusses the advantages and disadvantages of sharing military data and technological intellectual property. She identifies a number of benefits potentially deriving from the United States creating an information umbrella with its allies. These include enhanced interoperability, preserving their technological superiority, and generating cooperation between allies, which may form the basis of mutually beneficial relationships. Borowitz then highlights some surprising advantages that may stem from not sharing data or technological intellectual property. She argues a degree of information siloing may create incentives for states such as Australia to develop their own independent capabilities, conferring potential benefits related to redundancy and resilience. Disaggregated systems can decrease vulnerability and will increase the overall volume of data collected and analysed. Consideration of all these points should occur when deciding which technological sharing model to adopt in the information age.

Related:

'Sharing Information and Intelligence in the Pacific,' *The Strategist*, 16 Sep 21

'To Win Battles of Information, the US Army Will Need Deep Sensing and Data Handling,' *Defense News*, 10 Sep 21

'US Army Works Through What 'Information Advantage' Is and How To Achieve It,' *Defense News*, 09 Sep 21

'A Sovereign Australian Government Data Framework,' *The Strategist*, 11 Aug 21

'New Army Tactical Network Leadership Will Try to Stop Frontline Frustrations with Data,' *Defense News*, 18 Aug 21

3D Printing Technology; Methods, Biomedical Applications, Future Opportunities and Trends

Journal of Materials Research and Technology — Jul 2021

3D printing technology is widely used in the defence and aviation sectors. Recently this technology has rapidly developed. It is now more accessible and affordable, meaning 3D printing is increasingly in favour with other industries. Medicine is a growing field for the technique, with 3D printing providing a revolution for medical treatment and automation engineering. In this study, Yahya Bozkurt and Elif Karayel introduce this technology, outline different methods for printing, and explain the various applications of the items produced. Some biomedical applications include creating pharmaceuticals, disease modelling, developing customised implants and prostheses, organ printing, and tissue engineering. Other uses include diagnosis, treatment, and improving surgical results. Concerning automation, 3D printing can rapidly produce complex parts exceptionally cheaply and without the need for a long production line. 3D printing techniques aid design freedom and generate much less material waste. Bozkurt and Karayel's article concludes by contemplating trends and some future opportunities for this incredible technology.

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'Military 3D & 4D Printing Market Report 2021-2031,' *Yahoo Finance*, 17 Sep 21

'Marines 3D Print Part for Mine-Clear Device, Then Blow It Up,' *Defense News*, 10 Sep 21

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