



Australian Army Research Centre

Spotlight Brief

No. 5, 2021

Edited by 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

Military Modernisation in Southeast Asia in the Indo-Pacific Strategic Context

Defense and Security Analysis – May 21

In this article, Shang-su Wu seeks to explain the relationship between the Indo-Pacific security system and the military modernisation in South-East Asia. While seemingly self-evident, Wu finds this relationship is much more complicated due to the differing national security priorities of each nation, ranging from great power competition through to traditional, non-military national security concerns. Wu finds that across these differing views, the two common, key driving factors are a desire to increase national influence in the region and a desire to deter. This applies to both sides of the modernisation contract; nations that sell capabilities seek these factors as much as those that purchase. From this work, Wu finds that the centre of gravity in preserving the status quo lies with three key nations, Singapore, Indonesia and Malaysia. Understanding why these three are linchpins and how these nations interact is critical for understanding Australia's approach and points the Army can support its partners.

Related:

'Money-Saving Approach to Modernizing Arsenal's Could Cost SE Asian Nations', *BenarNews*, 12 May 21

'What's impeding Indonesia's Military Ambitions?', *Defense News*, 10 May 21

'Asian Military Spending: A Sign of Worsening Security Environment.' *Observer Research Foundation*, 04 Mar 21

'How is ASEAN Military Faring in Recent Global FirePower Ranking?' *The Online Citizen*, 25 Jan 21

'Understanding Vietnam's Military Modernization Efforts.' *The Diplomat*, 25 Nov 20

Burden Sharing: The US, Australia and New Zealand Alliances in the Pacific Islands

International Affairs – Jul 21

Joanne Wallis and Anna Powles argue it is time to reconsider how governments conceive alliance management and burden sharing between states. They suggest the geostrategic environment has generated a greater need for non-military contributions to alliance partnerships. By way of example, they highlight the relationship between the US, Australia, and New Zealand when working with the Pacific Islands. The US can be relied upon for ‘hard power,’ particularly military capability and economic might. As a middle power, Australia has a combination of both hard power and ‘soft power,’ that is, persuasive tools such as cultural, institutional, and other intangible mechanisms. Despite being a small state, New Zealand’s history, geography and demography have strengthened its sense of identity with the region, so it has more soft power than either the US or Australia. Wallis and Powles posit that each respective contribution is valuable, and that the latter two are often under-appreciated in discussions of burden sharing.

Related:

‘America’s Strategy in Oceania: Time for a Better Approach’, *War on the Rocks*, 19 Jul 21

‘The Peaks and Troughs of ANZUS at 70,’ *The Strategist*, 27 Apr 21

‘The Americans are Coming,’ *Inside Story*, 15 Apr 21

‘The Kangaroo and the Kiwi: Growing Divergence between Cross-Tasman Allies,’ *Young Australians in International Affairs*, 03 Apr 21

Evolving Geo-strategic Dynamics

The Geostrategic Relevance of the Black Sea in the Current Security Context

[Strategic Impact](#) – Jan 21

This article provides an overview of the contemporary strategic significance of the Black Sea, a confined body of water with significant geopolitical complexity surrounding it. Bogdan Țuțuianu emphasises that the Black Sea has been a constant arena for increasing competition, expanding spheres of influences, deepening and perpetuating regional tensions, and destabilising actions. He highlights the lack of homogeneity between the six littoral States surrounding this compact maritime basin, specifically that: two are members of NATO and the EU (Bulgaria and Romania), one is only a member of NATO (Turkey), two have NATO and EU accession aspirations (Georgia and Ukraine), and one is politically opposed to both NATO and the EU (Russia). This dynamic is characterised by competing strategic ambitions, interests, objectives, and goals. Țuțuianu argues that there is a variety of potential catalysts for conflict in this region. They include restoring and increasing influence, regaining and reinforcing prestige, distracting domestic audiences, and gaining control of vital economic chokepoints. Țuțuianu concludes by laying out some predictions for what the future holds for the Black Sea.

Related:

[‘What is Behind Recent Confrontations Between Russia and the West in the Black Sea?’](#) *Euro News*, 07 Jul 21

[‘U.S. Warship Leads Drills in Russia’s Backyard, A Message that the Black Sea is For Everybody.’](#) *CBS News*, 06 Jul 21

[‘HMS Defender: What will be the Fallout from Black Sea Incident?’](#) *BBC*, 23 Jun 21

[‘What is Russia Doing in the Black Sea?’](#) *Carnegie Endowment for International Peace*, 20 May 21

[‘Russia to Close Parts of Black Sea Near Crimea for Six Months.’](#) *Al Jazeera*, 16 Apr 21

Advancing Cyber Diplomacy in the Asia Pacific: Japan and Australia

[Australian Journal of International Affairs](#) – May 2021

Stability in the cyber domain is rapidly deteriorating on several fronts. The increasing sophistication of cyberattacks, declining consensus on global internet governance, and intensifying great power competition are all examples of this. Mark Bryan Manantan's article enriches the theoretical foundations of cyber diplomacy by clarifying the tools and initiatives deployed to achieve national interests in cyberspace. He challenges the extant literature's consensus that deterrence has limited application in this realm, gesturing towards Australian and Japanese cyber strategies as evidence for his theory. Manantan argues that both countries have effectively integrated deterrence into their cyber diplomacy through mechanisms such as public attribution and capacity building. The former deters by inflicting reputational costs on a transgressor, causing them to lose face on the international stage, while the latter deters through denial and through raising potential retaliatory costs.

Related:

['Empty Threats and Warnings on Cyber,'](#) *Lawfare*, 12 Jul 21

['The State of the Cybersecurity Climate in the Asia-Pacific,'](#) *Young Australians in International Affairs*, 09 Jul 21

['Deterring Cyber Disaster,'](#) *Wilson Center*, 16 Jun 21

['Asia Pacific experiencing a 168% year on year increase in cyberattacks in May 2021,'](#) *Check Point Research*, 27 May 21

['Australia's International Cyber and Critical Technology Engagement Strategy,'](#) *Australian Government*, 21 Apr 21

['Japan's Cybersecurity Strategy,'](#) *Institut Français des Relations Internationales*, 08 Feb 21

Strategy

Military Responses to COVID-19, Emerging Trends in Global Civil-Military Engagements

[Review of International Studies](#) – Jan 21

Militaries have a long history of participating in health initiatives both domestically and abroad. In this article, Fawzia Gibson-Fall maintains that the COVID-19 response is a pivotal moment in this continuum of military health engagements. She canvasses the roles that militaries have played in national responses to COVID-19 and identifies three emerging categories of engagement: minimal technical military support, blended civil-military responses, and military-led responses. Gibson-Fall outlines the impetus for each type of response and explains how each response typically affects health outcomes. Some reasons for resistance to military involvement include concern with military motives and the fear of politicising health interventions. Other factors that influence military engagement include differing political systems, levels of institutional capacity, political legitimacy, justice systems, media freedom, contagion levels, institutional legacies, and acceptance of the virus. Analysis of trends demonstrates that military engagement primarily compensates for institutional gaps in the civilian realm. Analysis of military responses thus provides an unprecedented opportunity to identify critical gaps in public health systems.

Related:

[‘Medical Experts Call for Australia’s Defence Force to Help Ramp Up COVID-19 Vaccine Roll-Out.’](#) *SBS*, 19 Jun 21

[‘Interoperability and Flexibility: Military Engagement During the Covid-19 Pandemic.’](#) *European Army Interoperability Centre*, 26 May 21

[‘Top Defense Official Calls Military’s COVID Effort ‘Phenomenal.’](#) *Department of Defense News*, 23 Mar 21

[‘COVID: How the Military’s Been Involved In Fighting Coronavirus.’](#) *Forces*. *Net*, 18 Feb 21

Civil-Military Relations: “What Does It Mean?”

Strategic Studies Quarterly – Summer 21

As a volunteer military in a democracy state, the relationship between the military and civilian worlds is critical to the success of the ADF. At almost every level, civilians provide essential capabilities to uniformed forces and the numbers are often hidden; as of June 2020, the ADF was approximately 43 percent civilian, including APS and contractors. Army personnel have also seen increased working with civilians through domestic assistance missions and international disaster responses. All of this underscores the importance of understanding and building civil-military relations, and in this article, General Martin Dempsey provides his views. As a former Chairman of the Joint Chiefs of Staff, General Dempsey worked with a number of senior civilians and two Presidents across an enormous organisation with a number of strategic challenges. He describes several areas to be aware of, and stresses the importance of understanding two factors: loyalty and the hidden influence of culture.

Related:

'Understanding the Value of Defence,' *RAND Corporation*, 13 Jul 21

'Another “Crisis” in Civil-Military Relations?,' *War on the Rocks*, 08 Jul 21

'Indonesian peacekeeping and civil-military relations: a double-edged sword,' *The Strategist*, 06 Jul 21

'Keeping Norms Normal: Ancient Perspectives on Norms in Civil-Military Relations,' *Texas National Security Review*, 26 May 21

'Examining the Relationship between Defence and Civil Society,' *Defence Connect*, 25 Mar 21

Defence Mobilisation Planning Comparative Study

RAND – 2021

Following the development of the 2020 Defence Strategic Update, RAND were engaged by the ADF to undertake a series of studies related to mobilisation. This document is the result of one of those studies – a comparative analysis of mobilisation plans within the United States, Switzerland, Sweden, Finland, and Singapore. Their findings highlight the importance of a flexible mobilisation system, already seen to be essential with bushfires and COVID-19, as well as broader contributors beyond the Department of Defence.

Related:

'Unprecedented is Not a Reason to be Unprepared.' *Griffith Asia Insights*, 11 May 21

'Australia to Produce its Own Guided Missiles as Part of Billion-dollar Defence Manufacturing Plan.' *ABC News*, 31 Mar 21

'Indonesia's National Mobilisation Strategy: Growing Deeper Roots?' *S. Rajaratnam School of International Studies*, 09 Feb 21

'Pezzullo Explains How Planning for Anything Got Australia through the Worst of COVID-19.' *The Mandarin*, 03 Feb 21

'National Mobilisation: What are the Strategic Risks to Australian National Security Planning?' *Australian Journal of Defence and Strategic Studies*, 21 Aug 20

Economy

The Effects of International Sanctions on Iran's Military Spending: A Synthetic Control Analysis

Defence and Peace Economics – Jul 21

Geoeconomics – the use of economic levers for strategic ends – is a reinvigorated topic in a time of strategic competition. In recent years, there has been an increasing interest in the effectiveness of sanctions for changing the political behaviour of targeted states, particularly due to the rise of grey-zone economic tactics. Here, Mohammad Reza Farzanegan investigates whether the international sanctions placed on Iran between 2012 and 2015 caused a decline in Iranian military spending. Farzanegan's synthetic control method demonstrates that the trajectories of military spending for actual Iran and his counterfactual Iran were largely similar before the 2012 application of international sanctions. However, these trajectories diverge significantly from this point onwards. From 2013 to 2015, Iranian military spending reduced by US\$9 billion per year on average. His findings indicate that, even with states that push a significant part of their funding towards the military, economic sanctions can have noticeable impacts.

Related:

'UN Chief Urges US to Remove Iran Sanctions as Agreed in 2015.'
Al Jazeera, 30 Jun 21

'U.S. Lifts Some Iran Sanctions Amid Stalled Nuclear Talks.' *The Wall Street Journal*, 10 Jun 21

'Sanctions Are Now a Central Tool of Governments' Foreign Policy.'
The Economist, 22 Apr 21

'The Effectiveness of Economic Sanctions.' *Observer Research Foundation*, 28 Feb 21

'Do Economic Sanctions Actually Lead to Change?' *The Week*, 02 Feb 21

Military Spending and Economic Growth in Turkey: A Wavelet Approach

Defence and Peace Economics – Apr 21

The effect of military spending on economic growth has long been a subject of intense debate. Usman Khalid and Olivier Habimana employ a novel statistical approach to investigate this complex relationship. Their study analyses data from Turkey between 1961 and 2014. In this period, Turkey devoted a relatively high percentage of its central government budget to defence (approximately 3.4 percent of its gross domestic product). Khalid and Hamimana found that military expenditure has a significant adverse impact on growth in per capita gross domestic product. Their results suggest military spending has little effect on growth in the short term, but its negative impact becomes increasingly severe over the long term. This conclusion challenges the neoclassical claim that military spending actually promotes economic growth.

Related:

'How Does Defense Spending Affect Economic Growth,' *RAND*, May 21

'Does Military Spending Stifle Economic Growth? The Empirical Evidence from Non-OECD Countries,' *Science Direct*, Dec 20

'2021 Defence Budget at a Glance,' *Australian Defence Magazine*, May 21

'Military Spending in the Post-Pandemic Era,' *The Financial Express*, Jul 21

'World Military Spending Rises to Almost \$2 Trillion in 2020,' *SIPRI*, Apr 21

People, culture and ethics

Military Loyalty as a Moral Emotion

Armed Forces and Society – Jul 21

Loyalty is one of the cornerstones of the ADF and its operation. It is 'known' to be essential; however, the concept of loyalty in a military setting remains understudied. The authors of this study layout a theoretically informed, empirically supported analysis of what loyalty actually means for soldiers. The authors discern three core themes from their study. The first is that reciprocity is a key component of loyalty. The personnel interviewed expressed that they would do almost anything for their fellow combatants and assumed they would be supported in the same way. The second is that a sense of loyalty is stronger for smaller units. The third is that the concept of loyalty being an action-guiding prioritisation mechanism. The soldiers tended to rank varying loyalties to different agents and institutions to facilitate decision-making in times of conflict. While the authors propose recommendations, a greater understanding of non-tangible traits like loyalty can offer advantages across the spectrum of Army activities.

Related:

'How Do You Develop and Maintain Employee Loyalty?' *Built In*, 08 Jul 21

'Honor and Loyalty.' *City Journal*, 17 May 21

'The Hidden Dangers of Workplace Loyalty.' *The CEO Magazine*, 29 Mar 21

'Military Chiefs Remind Troops of their Oath After Fallout From Assault on Capitol.' *New Your Times*, 12 Jan 21

'Book Review | Tribe: On Homecoming and Belonging, By Sebastian Junger', *The Cove*, 31 Jan 21

Autism @ Work Playbook

Autism @ Work Employer Roundtable and University of Washington – Mar 21

As Army's needs and capabilities shift across domains, the type of people Army need is also shifting. Traditionally focused on a narrow physical and neurological band of capabilities, new technologies enable us to look outside this with greater ease. A familiar example lies with a uniformed shortfall of skills in science, technology, engineering, and mathematics, with implications for telecommunication, cyber, and quantum capabilities. Expanding the recruitment scope and seeking people across a wider neurodiverse field has significant benefits for the Army and individuals. In Australia, the unemployment rate for autistic people is 31.6 percent, three times higher than the rate for people with disabilities and six times higher than for those without. Actively recruiting from these areas has three simultaneous advantages: it gets Army highly talented people, it reduces unemployment and stigmatism, and it reflects Army's role as a representative of Australia's community.

Related:

'Leading the Charge to Increase Neurodiversity in the Federal Workforce.'
MITRE, Jun 21

'Programs within military intel agencies in the US and UK show growing commitment to neurodiversity.' *SC Magazine*, Apr 21

'Jobs for People Living with Neurodiverse Conditions.' *atWork Australia*, Mar 21

'Coming Up With Creative Solutions: Companies Looking to Hire Autistic Employees.' *Sydney Morning Herald*, Mar 21

'UK Military Relaxes Recruiting Rules to Attract Cyber Specialists.'
Financial Times, Apr 21

'DXC Dandelion Program', *DXC Technology*, 2021

Bullying in the Military: A Review of the Research and Predictors and Outcomes of Bullying Victimization and Perpetration

Military Behavioral Health – Dec 20

Bullying is unacceptable in military organisations as it leads to greater attrition, increased financial or legal problems, and decreased job performance, productivity, and unit cohesion. In addition, widespread public perception of bullying can lower esteem in the military and reduce recruitment numbers. In this study, Jaimee Stuart and Nicholas Szeszeran show that junior ranks and minority groups are most at risk of bullying, and perpetrators are always physically, emotionally, or socially stronger than victims. This study also highlights that many behaviours seen as bullying are also key to producing effective, efficient soldiers who maintain a high level of performance and achievement.

Related:

'Toxic Workplaces Increase Risk of Depression by 300%,' EurekaAlert,
23 Jun 21

'Define 'Bullying': Samuel Farley Talks to Oven-Ready HR,' Personnel Today,
13 May 21

'Why Toxic Workplace Cultures Follow You Home,' BBC, 05 Apr 21

'Workplace Bullying and Violence: What You Need to Know,' Safety and Health, 01 Apr 21

'APS Employee Census: SES Could Do More to Identify and Develop Talented People,' The Mandarin, 31 Mar 21

How Gender Socialization is Improving Women's Representation in Indonesia's Foreign Affairs: Breaking the Ceiling

[Australian Journal of International Affairs](#) – Mar 21

Historically, women's involvement in foreign affairs and the process of international decision-making has been relatively limited. However, there has recently been a spike in women's participation in this field in Indonesia. The authors of this study explore the extent to which gender socialisation has contributed to this increase. Gender socialisation describes the way that humans adopt behaviour and roles according to perceptions of a given gender. The authors conduct their qualitative study through a series of interviews. They determine that gender socialisation in Indonesia has benefitted from greater participation of women in politics and this in turn has altered the way that Indonesians regard women's involvement in foreign affairs. This supports the concept of "If I can see it, I can be it", and offers Army the chance to help lead Australia in developing more diverse workforces as it continues to expand the roles and positions of workforce minorities.

Related:

['Ready to Lead: Many Challenges Await First Female Army Secretary.'](#)
Association of the United States Army, 23 Jun 21

['Where Fitness Is the Job, Army Struggles to Be a Fair Boss with Female Troops.'](#) *The New York Times*, 11 Mar 21

['Biden Nominates Two Women To Lead Combatant Commands.'](#) *Defense One*, 08 Mar 21

['UN Women Australia asks 'When will she be right?'](#) *Mumbrella*, 08 Mar 21

['Global Gender Gap Report 2021.'](#) *World Economic Forum*, Mar 21

A Review of Machine Learning Applications in Human Resource Management

International Journal of Productivity and Performance Management – Feb 21

Often touted as the next essential tool for dramatically improving human resource management, machine learning is gradually receiving more and more attention. This article reinforces this view, finding that human resource management has accepted and started utilising machine learning, despite this technology being in its nascent stages. In addition to the more common recruitment, selection, and performance management elements, it also appears that machine learning could help with understanding employees. This article offers an exhaustive overview of the status of machine learning in human resource management, emphasising that this technology will be critical going forward. The authors acknowledge some significant concerns regarding biased algorithms but conclude that the ability to identify potential early from across entire organisations offers significant strength to current workforce reformation processes.

Related:

'6 HR Technology Trends to Anticipate in 2021.' *Culture Shift*, 13 Jul 21

'AI, the Future of Work and How to Improve the Safety and Security of the Workforce.' *AI News*, 16 Jun 21

'8 Ways AI is Transforming Talent Management in 2021.' *Venture Beat*, 25 Mar 21

'AI with a heart: How Artificial Intelligence Can Uncover Biases.' *HR Morning*, 17 Mar 21

'Five Ways AI Is Disrupting Human Resources Management.' *Sage HR*, 25 Jan 21

Sleep and High-Risk Behaviour in Military Service Members: A Mega-Analysis of Four Diverse U.S. Army Units

[Sleep Journal](#) – Apr 21

Sleep loss is a frequent experience for Army personnel and is recognised as a fundamental safety issue in operating heavy machinery. Even during nonoperational times, soldiers tend to sleep less than the general civilian population. Given that sleep is critical for maintaining cognitive, physiological, and emotional health, the stark difference in self-reported sleep between service members and civilians is cause for concern. This study combines data from four diverse United States Army samples and finds that soldiers, on average, are sleeping an inadequate number of hours, have poor sleep quality, and many have at least subthreshold clinical insomnia.

Related:

[‘What to Know About Sleep Deficiency,’](#) *Performance Triad*, 01 Jul 21

[‘Sleep Duration and Physical Performance During a 6-week Military Training Course,’](#) *Knowledge Enabled Army*, 10 Jun 21

[‘Sleep in the Military,’](#) *Sleep Foundation*, 27 May 21

[‘Sleep Issues are Soaring in U.S. Military: Study,’](#) *U.S. News*, 05 Apr 21

[‘Pentagon Report on Sleep Deprivation and Readiness,’](#) *USNI News*, 03 Mar 21

Archetype Profiles of Military Spouses in Australia

Armed Forces & Society – Jun 21

An often ignored or misunderstood part of many personnel's life is that of their partner. This imposes a critical balancing act as the service member increases in seniority; while this brings experience and knowledge, it also often brings complications for the Service in meeting family needs.

Ultimately, all Army personnel will leave the Service, meaning that the organisation needs to understand partners and their needs better.

This article seeks to begin redressing that knowledge gap. Through interviews with a number of ADF partners, the authors identify seven archetypes, as well as where these archetypes influence the ADF. Critically, it highlights that while research on the ADF may be scarce, there are significant common points with other Western militaries, allowing a solid body of work to be included into workforce changes.

Related:

'Military Partner Rebecca Hinton Calls for Royal Commission to Include Defence Partners.' *Port Lincoln Times*, 25 Jun 21

'Communities must not Forget our Military Spouses.' *The Canberra Times*, 23 Jun 21

'Grants Help Defence Families to Thrive.' *Department of Defence*, 01 May 21

'#ICYMI - Are You An Actively Supporting Supervisor?' *The Cove*, 25 Mar 21

'Rank, Gender and Working Arrangements of ADF Members: Results from the Defence Census and Implications for Partner Employment.' *Career Swag*, 25 Nov 20

Medical Challenges in Underground Warfare

Military Medicine – Feb 21

Throughout military history, tunnels and underground systems have featured, with increased use today as enemy forces seek to counter Western air supremacy. This article focuses on the medical challenges confronted when operating in this environment, including temperature, environmental, animal and gas. The authors also note that there is no front line or rear underground, so it is unclear where optimally to position medical teams. Having highlighted the threats, they then analyse Israeli Defense Force data on casualties between 2004 and 2018. The author's group injuries sustained in the subterranean battlefield into three categories: smoke inhalation, crush injury, and blast. They found 46% of casualties had suffered blast injuries, 35% smoke inhalation, and 19% crushing injuries, before outlining how each type of injury should be treated and prevented.

Related:

'Tactics in an Era of Great Power Competition,' *Modern War Institute*, 21 Jun 21

'Kolombangara: Surveying a Forgotten Second World War Fortress,' *The Past*, 14 May 21

'Facing our Underground Nightmares: Casting light on the Subterranean Fight,' *Association of the United States Army*, 20 Aug 19

'The Subterranean Battlefield: Warfare is going underground, into Dark, Tight Spaces,' *Military Times*, 26 Feb 19

'From Cast Lead to Protective Edge: Lessons from Israel's Wars in Gaza,' *RAND Corporation*, 2017

Australian Attitudes towards Innovation, Work and Technology: Towards a Cultural Explanation

Prometheus – Mar 21

Innovation is often touted as a key to maintaining Army's competitive edge over rivals. Army is a subset of Australian society and with that comes all the advantages and disadvantages of Australian culture. One disadvantage is Australia's limited success in innovation in high-technology areas (despite high levels of education). This article investigates this issue, and finds that there is a cultural bias against technology and innovation that relates to strong belief in societal legends. In emphasising the 'pioneer heritage,' Australians have placed undue focus on the agricultural and resource sectors. Ironically, despite Army's desire to innovate, its own internal culture reinforces the trends of broader society with heavy focus on the ANZAC legend, possibly reinforcing the very aspects of culture that are undermining an important key to future success.

Related:

'Unleash R&D Potential Trapped in Universities: Report,' *Financial Review*, 27 Jun 21

'Is There Anything New Under the Technological Sun?' *The Diplomat*, 25 Jun 21

'Australia Needs to Pick Up the Pace on Innovation,' *The Strategist*, 11 Jun 21

'Change is Critical for our Future,' *The Australian*, 01 Jun 21

'On R&D Spend, Success Can be Hard to Find,' *Innovation Aus*, 05 Apr 21

Force Design

Organizational transformation: Handling the double-edged sword of urgency

[Long Range Planning – Mar 21](#)

Traditional change models require organisations to develop a wide sense of urgency. For example, for Defence the rapid growth of the threat from improvised explosive devices saw an equally rapid change in equipment, training, and tactics. Unfortunately, urgency tends to generate a more conservative mindset where people are more likely to seek incremental alteration and seek to reduce errors. This creates issues and concerns as the change works against itself. In this article, Tobias Fredberg and Johanna Pregmark seek to explore this tension, and come up with three propositions for leaders seeking to undertake change:

- Create clear definitions of success and publically accepted space to tolerate failure.
- Pressure projects and demand accountability while creating trust and safety between projects.
- Continually update strategic direction while allowing freedom to explore new directions.

Fredberg and Pregmark believe that leaders that adopted these three propositions balanced the tension of urgency, which resulted in organisations that were highly successful in implementing change.

Related:

[‘Change Management: 6 Reasons it Fails,’](#) *The Enterprisers Project*, 09 Jun 21

[‘Choosing a Change Model,’](#) *Association for Talent Development*, 17 Mar 21

[‘The Easy Guide to Kotter’s 8 Step Change Model,’](#) *Creately*, 19 Feb 21

[‘HR & Change Management: Beyond the Kotter Model,’](#) *Academy to Innovate HR*, 13 Feb 21

[‘Transformation in Uncertain Times: Tackling Both the Urgent and the Important,’](#) *McKinsey and Company*, 03 Feb 21

After the Fires? Climate Change and Security in Australia

Australian Journal of Political Science – Jun 21

In the last two years, the Army has played a significant role in several domestic disaster relief efforts. The devastating bushfires of 2019–2020 were one such recent emergency. The Army's involvement was well-received and subsequently prompted discussion concerning the fundamental function of the Army. One prominent assertion was that the Army should deploy to deal with any form of 'security' challenge. In this article, McDonald discusses whether bushfires (and more broadly climate change) should be deemed a matter of 'security,' and raises some implications of using this analytical lens. In coming down on the affirmative side, his argument entails that it is appropriate for the Army to respond to domestic climate-induced emergencies. To this end, McDonald notes that the Department of Defence should establish a permanent natural disaster response capacity.

Related:

'Calling in the Army for the Vaccine Rollout and Every Other Emergency Shows How Ill-Prepared We Are.' *The Conversation*, 07 Jun 21

'The Case for an Indigenous Australian Civil Defence Force.' *The Strategist*, 24 May 21

'Defence Needs to Rethink its Disaster-Relief Strategy.' *The Strategist*, 12 Apr 21

'ADF Will Need More Resources to Deal with Climate and Regional Security Crises.' *The Mandarin*, 12 Apr 21

'Developing a New Plan B for the ADF: Implications from a Geostrategic SWOT Analysis for Australia.' *Security Challenges*, 15 May 20

Implementing Deterrence by Detection

Centre for Strategic and Budgetary Assessments – Jul 21

The ability to ‘detect’ lies at the heart of the concept of deterrence. Detection provides the time to construct a response. There are two complications for detecting in the region – the sheer size of the area and the number of coercive activities occurring that fall below the threshold for war. These complications mean significant costs and effort must be spent on maintaining situational awareness in order for Australia to successfully deter. This document assesses the costs of achieving deterrence. Building on previous CSBA work on deterrence, it provides a method for realistically achieving improved situational awareness. Building on existing systems, this document seeks to better mesh assets and organisations together, and utilise disruptive technology in key specific areas. In doing this, it walks the line between cost and timeliness, as well as highlighting the importance of a broader, multi-domain approach.

Related:

‘The ADF Needs Knowledge if it’s to Shape, Deter and Respond.’
The Strategist, 05 Jul 21

‘Knowledge is Power: Greenland, Great Powers, and Lessons from the Second World War.’ *The Arctic Institute*, 15 Jun 21

‘Sharpening the Blunt Tool: Why Deterrence Needs an Update in the Next U.S. National Security Strategy.’ *Strategy Bridge*, 08 Apr 21

‘INDOPACOM: Deterrence Fund Increase Needed for ISR, Missile Defense in the Pacific.’ *Air Force Magazine*, 09 Mar 21

‘Operationalizing Deterrence in the Indo-Pacific.’ *Indo-Pacific Defense Forum*, 19 Feb 21

Science, Technology and Industry

Laser Technology Applications in Critical Sectors: Military and Medical

Journal of Electronic Voltage and Application – Jun 21

This article summarises laser technology applications in the military and medical sectors. A laser is a device that emits a focused beam of light by stimulating the emission of electromagnetic radiation. This article initially surveys the various contemporary applications of lasers and presents a timeline for developing this technology. It then outlines the various roles that lasers play for armies. The Army uses lasers for simulation and training purposes so that soldiers can practise shooting. They also use lasers for anti-missile defence systems because they are extremely precise and responsive. This allows this technology to target fast travelling airborne missiles and neutralise small agile vehicles. This article concludes that the fundamental characteristics of lasers ensure that laser technology will remain indispensable in the future for critical industries such as defence.

Related:

'Hidden Gems in the 2020 Force Structure Plan.' *The Interpreter*, Jul 20

'New U.S. Army Laser Machine Gun Fires 'Bullets' of Light.' *Forbes*, Mar 21

'Fast and Furious: Army to Test Laser Weapon as it Looks to Field Rapidly Developed System Next Year.' *Stars and Stripes*, May 21

'Laser Weapons Get Ready for the Big Time.' *Military and Aerospace Electronics*, Jul 21

'Army Special Forces Wants Lasers to Shoot Down Drones.' *Nextgov*, Feb 21

Research on Digital Twin Framework of Military Large-scale UAV Based on Cloud Computing

Journal of Physics – Jul 21

Earlier this year Australia's uncrewed aerial vehicle the Loyal Wingman completed a successful test flight. Large uncrewed aerial vehicles have several advantages over traditional crewed aircraft: they are safe, intelligent, manoeuvrable, relatively cheap in terms of construction, maintenance, and operation costs, and have a high load capacity. They have become the ideal aerial platform for Army tasks such as reconnaissance, surveillance, and communication relay due to their operating height, wide coverage area, and long working hours. The authors of this article argue that there is an urgent need to build a cloud computing-based digital twin framework for these large military drones. They believe this is necessary in light of considerations such as test costs, integrated perception, centralised control, business prediction, and mission planning. The authors conclude by listing five priorities to consider when constructing the cloud computing-based digital twin system.

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'Digital Twins: What Are They and How They Can Help You,' *Market Screener*, Jun 21

'Digital Twins – Timeline,' *Verdict*, May 21

'Loyal Wingman Takes First Flight in Australia,' *Aviation Today*, Mar 21

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'Emerging Technologies in Military Drones,' *Financial Express*, Jun 21

