

Grey zone challenges and Australia-Japan defence cooperation

Peter Layton

**GREY ZONE CHALLENGES
AND AUSTRALIA-JAPAN
DEFENCE COOPERATION**

Peter Layton

Griffith Asia Institute

About the Griffith Asia Institute

The Griffith Asia Institute (GAI) is an internationally recognised research centre in the Griffith Business School. We reflect Griffith University's longstanding commitment and future aspirations for the study of and engagement with nations of Asia and the Pacific.

At GAI, our vision is to be the informed voice leading Australia's strategic engagement in the Asia Pacific—cultivating the knowledge, capabilities and connections that will inform and enrich Australia's Asia-Pacific future.

We do this by: i) conducting and supporting excellent and relevant research on the politics, security, economies and development of the Asia-Pacific region; ii) facilitating high level dialogues and partnerships for policy impact in the region; iii) leading and informing public debate on Australia's place in the Asia Pacific; and iv) shaping the next generation of Asia-Pacific leaders through positive learning experiences in the region.

About the publication

The Griffith Asia Institute's 'Research Papers' publish the institute's policy-relevant research on Australia and its regional environment. The texts of published papers and the titles of upcoming publications can be found on the Institute's website: www.griffith.edu.au/asia-institute

'Grey zone challenges and Australia-Japan defence cooperation'

© Griffith University 2022

ISBN: 978-1-922361-32-5 (print)

978-1-922361-31-8 (online)

Photography: Cover and title pages sourced from Shutterstock and Creative Commons.

About the author



Dr Peter Layton is a Visiting Fellow at the Griffith Asia Institute, Griffith University and a RUSI Associate Fellow. He has extensive aviation and defence experience and for his work at the Pentagon on force structure matters, was awarded the US Secretary of Defense's Exceptional Public Service Medal. He has a doctorate from the University of New South Wales on grand strategy and has taught on the topic at the Eisenhower School for National Security and Resource Strategy, US National Defense University.

For his academic studies, he was awarded a Fellowship to the European University Institute, Fiesole, Italy. His research interests include grand strategy, national security policies particularly relating to middle powers, defence force structure concepts and the impacts of emerging technology. He contributes regularly to the public policy debate on defence and foreign affairs issues and is the author of the book *Grand Strategy*. His posts, articles and papers may be read at <https://peterlayton.academia.edu/research>.

CONTENTS

Executive summary and policy recommendations	1
Introduction.....	2
Grey zone in action.....	4
South China Sea.....	4
The Senkaku’s airborne grey zone	7
Conclusion and a most worrying development	10
Grey zone future evolutions	11
Responding to grey zone activities	14
Operational Level	14
Tactical Level.....	15
Australia–Japan Collaborative Opportunities	17
Air policing operational concept	17
Surveillance drone operational concept	18
Prototype warfare technological opportunities	20
Conclusion.....	23
Notes and references.....	24

EXECUTIVE SUMMARY AND POLICY RECOMMENDATIONS

The strategy of grey zone is incremental, slowly nibbling away at the edges, making use of diverse military and non-military measures, being careful not to drive others into a major war, controlled at the highest governmental levels and enduring. In exploring grey zone techniques, their use in the South China Sea and the East China Sea in the maritime and air environment respectively provides some useful insights.

Grey zone techniques have both steadily developed and remain evolving. Understanding the direction towards which grey zone activities could shift is important given deepening concerns over them and to get in front of a seemingly worsening trend. Countries are now starting to take actions in response to grey zone actions, reorienting their defence force structures accordingly and coming together to act collectively. In recent years, Australia and Japan have both become deeply concerned over grey zone actions.

The future is uncertain and so prudence would suggest being prepared, both today and tomorrow, for good and bad grey zone possibilities. In this vein, several specific defence policy recommendations concerning grey zone are made:

1. **Develop the Measured Forward Planning Concept.** The paper outlines a measured forward planning concept to guide responses to grey zone actions. However, the concept needs greater granularity directly related to emerging and potential future grey zone techniques, and appropriate to the regions in which grey zone actions are being undertaken. The Griffith Asia Institute is well placed to develop this proposal further, bring other institutions into the study and provide the necessary infrastructure.
2. **Air Policing.** Air policing is a concept both with a considerable history and in use today, especially in Europe. An analysis could be undertaken with Australian-Japanese interlocutors to initially develop a substantive Track 2 proposal with an option to move to Track 1.5 as research determined. There are specific political matters that would need understanding first before the more detailed Track 1.5 work could be undertaken.
3. **Surveillance Drone Operational Concept.** An analysis could be undertaken with Australian-Japanese interlocutors to initially develop a substantive Track 1.5 proposal. The use of uncrewed surveillance aircraft is intrinsically less contentious than the air policing concept. The surveillance drone construct is today at a conceptual level ready for Track 1.5 discussions to tease out the practical strategic and operational issues.
4. **Prototype Warfare Technological Opportunities.** The processes and techniques introduced by the fourth industrial revolution open up substantial scope for Australian-Japanese collaboration on developing, testing and manufacturing small-scale, innovative technology systems appropriate to countering grey zone activities. These systems could be hardware or software, be created under the 'prototype warfare' framework, be built in strictly limited numbers and have short life cycles. Accordingly, they would not usually be adversely impacted by any third-party constraints.
5. **A Complex Technological Opportunity.** Australia and Japan are both developing high performance uncrewed air vehicles incorporating artificial intelligence that might be suitable for future air policing operations. Given both countries are deeply interested in the same technology, a focussed collaboration may be possible either on an air policing system as a whole, or just on selected elements of the system. An uncrewed air policing system would be optimised for the regional air environment and include the air vehicle, supporting ground sensors and assets, command and control, and the overarching communications network.

INTRODUCTION

Over the last several years the relationship with China has become increasingly awkward for both Australia and Japan. This is not an isolated experience with other nations similarly afflicted and sometimes more so. A new term, coined initially to describe the difficult relationships between Russia and numerous European states, is now also applied to the type of prickly, recurrent interactions many Indo-Pacific states have developing with China. The ‘grey zone’ expression is today often used as a short-hand label for China’s new form of fractious interstate relations. These are most troubling but fall short of war.

In a seminal work, Michael Mazarr set out that grey zone conflicts involved the purposeful pursuit of political objectives through carefully designed operations; a measured movement towards the objectives rather than seeking decisive results within a specified time period; acting to remain below key escalatory thresholds so as to avoid war; and the use of all the instruments of national power, particularly nonmilitary and non-kinetic tools.¹

Given these broad grey zone characteristics, several implications are apparent.² Grey zone actions aim to gradually accumulate successes through a series of interlinked actions. This means they inherently must be implemented in a carefully-designed campaign plan.³ Moreover, given this basis in enduring plans, this further means grey zone activities are controlled by strategic-level commanders.

The highest levels of the Communist Party of China and the People’s Liberation Army (PLA) command structures are involved. Grey zone actions are not those of tactical commanders free lancing. This highlights that while Chinese grey zone operations involve coordinating many non-military entities, they ultimately rely on hard military power provided by the PLA and wielded by the Party. Without the PLA, China’s grey zone activities would be very different and much less effective.

Importantly, the aim in these grey zone operations is to avoid and indeed prevent military escalation. The operation at the tactical



Indian Prime Minister, Narendra Modi holds an All Party Meeting via video conferencing to discuss the situation in India-China border areas, in New Delhi on June 19, 2020.

level must be tightly controlled as the Chinese strategic leadership do not wish to accidentally start a war. It's a form of carefully scripted brinkmanship.

Accordingly, grey zone operations are only appropriate for a time of resilient peace. If the peace is delicate with all postured and ready to fight, grey zone operations will be too risky to undertake. Grey zone activities rely on a resilient peace that can absorb a grey zone shock and bounce back, not a fragile peace that can suddenly shatter, starting a war. The implication of this contextual requirement is that the target of grey zone actions needs to be cooperative. They must be invested in keeping the peace and not wishing to break it.

On the other hand, China's grey zone activities are now generating their own countervailing forces. There is a paradoxical logic to strategy where successful actions cannot be repeated as the other party adapts in response to ensure the same outcome cannot be gained in this way again.⁴ China has assertively contested territory on its borders with India, with Japan in the East China Sea and with several ASEAN states in the South China Sea. The result has been that many regional and extra-regional states have become increasingly concerned and now seek to resist these unwanted Chinese intrusions.

Japan, in having a maritime border China has long experience with grey zone activities. Grey zone response has become one of the six tasks assigned to the Japanese Self Defence Force (JSDF). Japan's 2021 Defence of Japan White Paper sets out that:

*grey-zone situations, which are neither purely peacetime nor contingency situations, are becoming persistent over a long period of time, playing out as part of inter-state competition. They may possibly further increase and expand. Such grey-zone situations harbor the risk of rapidly developing into graver situations without showing clear indications.*⁵

While more distant geographically from China, Australia is now also seriously concerned about the increasing use of grey zone techniques. Australia's Defence Strategic Update 2020 examined grey zone actions and found that:

*The conduct of 'grey-zone' activities has...expanded in the Indo-Pacific. These activities involve military and non-military forms of assertiveness and coercion aimed at achieving strategic goals without provoking conflict. In the Indo-Pacific, these activities have ranged from militarisation of the South China Sea to active interference, disinformation campaigns and economic coercion. Defence must be better prepared to respond to these activities, including by working more closely with other elements of Australia's national power.*⁶

Based on this assessment, decades-long Australian defence planning assumptions of a long warning time before possible military actions have now been deemed untenable. The Strategic Update 2020 declared: 'coercion, competition and grey-zone activities directly or indirectly targeting Australian interests are occurring now.' This call for better Defence preparedness involves both being able to employ the force-in-being today against grey zone activities, as well as developing the future force to be more able to meet tomorrow's grey zone challenges. Australia's grey zone challenges are here and now, expected to continue, and potentially worsen over time.

The paper initially discusses two contemporary grey zone examples. The second part looks to the future to appreciate how China's grey zone activities might evolve, potentially positively but possibly negatively. The third section examines some response planning issues and options, while the fourth and final section delves into collaborative grey zone responses that Japan and Australia might conceivably undertake.⁷



GREY ZONE IN ACTION

Two ongoing grey zone operations illustrate some of the array of tactics and techniques that are employed by China: the South China Sea and the Senkaku Islands (in China called the Diaoyu Islands).

Given its long duration and the involvement of many nations, the South China Sea case has become the poster child for Chinese grey zone activities. However, in this case, there is only a limited use of PLA assets with more involvement by other Chinese government agencies and civilian entities. In the Senkaku Islands there is a greater use of the PLA, although other Chinese government agencies and civilian entities remain engaged. In this paper, the principal discussion concerning the Senkaku case study is set in the air domain. The PLA Air Force is very active in intruding into airspace around the Senkakus.

South China Sea

In the South China Sea, China is undertaking a long-term, carefully planned program of territorial expansionism at the expense of several ASEAN states: Vietnam, Malaysia, Indonesia, Brunei and the Philippines. The island groupings most disputed are the Paracel Islands, Scarborough Shoal and the Spratly

Islands. All are in deep water of 1000 metres or greater, and well beyond China's continental shelf; the Paracels are some 300km from the southernmost coastline of China's Hainan Island, Scarborough Shoal some 700km and the Spratly is in the far south at about 1000km.

China claims not just these island groups but all of the South China Sea lying within the so-called nine-dash line. This rather imprecise line first appeared on a map published by the pre-communist Kuomintang government in December 1947. The nine-dash line encompasses more than 80% of the South China Sea and cuts across the Exclusive Economic Zones (EEZ) of Vietnam, Malaysia, Indonesia, Brunei and the Philippines agreed under the 1982 United Nations Convention on the Law of the Sea (UNCLOS).⁸

China initially established permanent settlements in the Amphitrite Group in the Eastern Paracel Islands in 1955 and then in 1974, towards the end of the Vietnam War, seized the Western Paracels from South Vietnam. In a brief military action, some 58 Vietnamese were killed, one corvette was sunk and three frigates were damaged.⁹ In 1988 this process was repeated in the Spratly

Islands, with the Johnson South Reef Skirmish in which some 70 Vietnamese sailors and soldiers were killed and three landing ships lost.¹⁰ These two events occurred in the late Cold War when China was a strategic partner against the USSR and were largely ignored internationally.

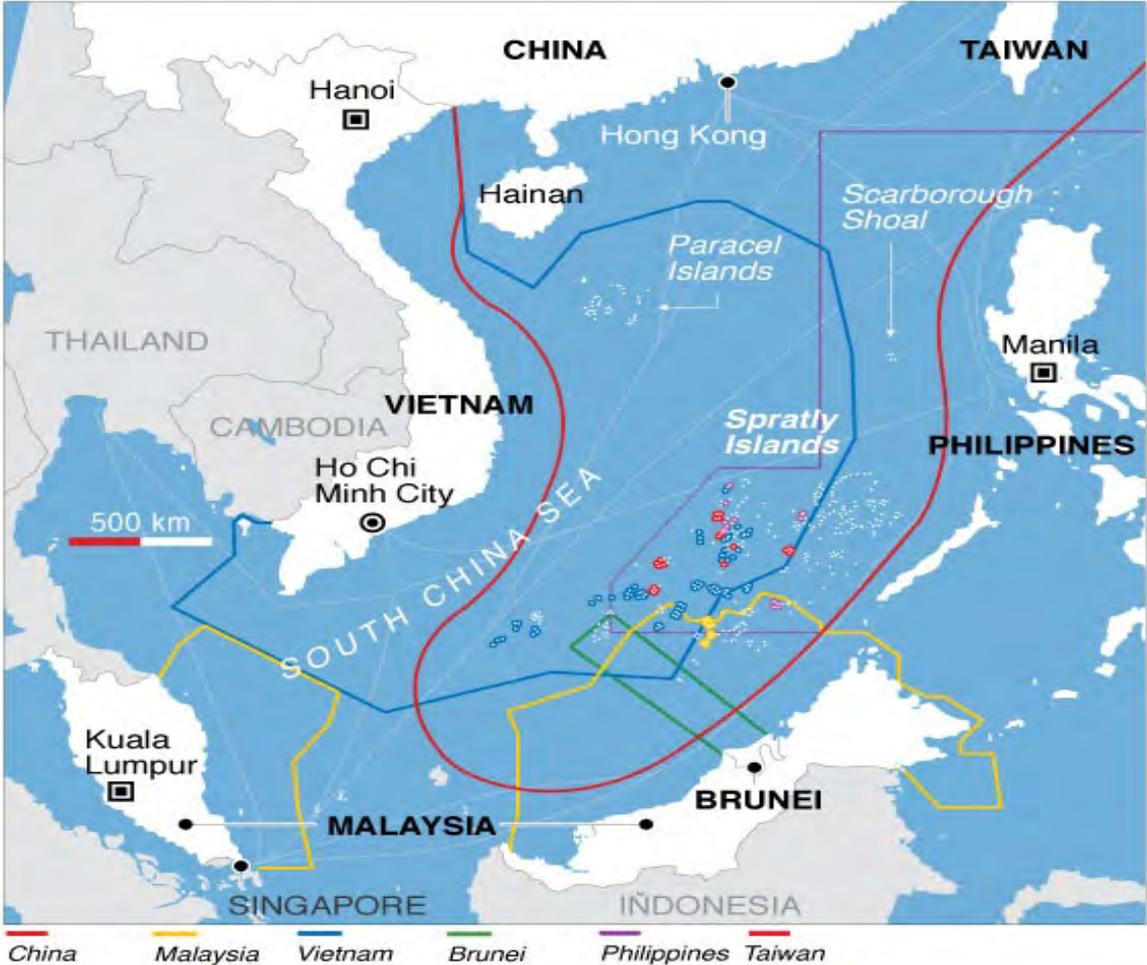
After the Cold War, the waters and islands of the South China Sea remained in dispute but at only a comparatively low level of conflict and competition. In 2009 China however moved sharply away from its decade-long 'charm offensive' during which it sought to persuade ASEAN countries and the wider global community of its peaceful intentions and instead adopted a much more assertive posture.

At Woody Island in the Paracels military facilities have been expanded and improved, surface-to-air and anti-ship missile systems

installed, and fighter aircraft deployed on regular rotations. At Scarborough Shoal, China has erected a barrier which, together with Chinese coast guard and maritime militia patrols, prevents traditional Philippine fishermen from fishing there.¹¹ Further south, in mid-November 2021 at Second Thomas Shoal, two Chinese Coast Guard ships used water cannons to attack civilian vessels resupplying a Philippine military outpost on the reef.¹²

China is also remaining assertive in the waters off Malaysia and Indonesia. In 2021 Malaysia's Ministry of Foreign Affairs twice formally called the Chinese ambassador in to protest the presence of Chinese ships in Malaysia's exclusive economic zone.¹³ While, for seven weeks across August to October a large Chinese government oceanographic survey ship, escorted by Chinese Coast Guard vessels, operated inside Indonesia's EEZ.¹⁴

Figure 1. South China Sea claims map



Source: [Wikimedia Commons](https://commons.wikimedia.org/wiki/File:South_China_Sea_Claims_Map.png)

In the Spratlys, there has been large-scale land reclamation and the building of an extensive military infrastructure including sizable airfields, port facilities, military barracks and lighthouses. China has constructed 72 fighter aircraft hangars at its three Spratly airbases (Fiery Cross, Mischief, and Subi Reefs) along with another 16 hangars at Woody Island in the north.¹⁵ China has not yet deployed combat aircraft to the Spratlys but rotates J-11 fighters frequently through Woody Island. In addition, the PLA has deployed YJ-12B and YJ-62 anti-ship cruise missiles to the Spratlys and Woody Island, and installed extensive radar and signals intelligence capabilities across all islands.¹⁶

With these moves, China is gradually putting in place a forward defence system able to be activated when it wishes to allow the PLA to militarily control the southern parts of the South China Sea.¹⁷ China's grey zone activities have succeeded in allowing it to gain the strategic advantage over the ASEAN nations.¹⁸ China's continuing activities will ensure this advantage is both entrenched and maintained.

The South China Sea's other navies have been unable to successfully push back against Chinese grey zone activities as these have used a carefully calibrated blend of naval, private and commercial measures. These combine to make the use of military force in response appear grossly inappropriate.

In 2013 Rear Admiral Zhang Zhaozhong of the People's Liberation Army Navy explained that China in a carefully timed sequence first sends fishing ships to the disputed territory, then fisheries patrol vessels, then Coast Guard ships and finally PLA Navy warships. In this so-called "cabbage strategy,...the island is...wrapped layer by layer like a cabbage" with the ships of other nations' progressively prevented from gaining access.¹⁹ This type of layered approach is also employed around oil drilling platforms that Chinese state-owned enterprises place in disputed waters.²⁰ In mid-2020, a Chinese state-owned oil survey ship accompanied by four Chinese Coast Guard ships and militia vessels spent a protracted period inside Malaysia's EEZ, eventually involving the

Malaysian Navy and for a short time, US and Australian warships.²¹

The manner in which the cabbage strategy is implemented is in a piecemeal, incremental fashion that gradually asserts Chinese sovereignty over a disputed area. Dubbed 'salami slicing' by non-Chinese commentators, each individual action is by itself too inconsequential to provoke a strong diplomatic pushback or a forceful military response. Nevertheless, over time the gradual accumulation of minor activities progressively adds up to a significant change.

The development of the Spratly Islands into military forward operating bases is proving particularly useful for the Chinese Coast Guard. Before the land reclamation was undertaken and bases built, Coast Guard ships needed to sail back to China to refuel and resupply, now the vessels can remain in the disputed areas for much longer periods. This demonstrates China's claim to sovereign rights over the Sea, better protects Chinese commercial activities such as fishing and resource surveying, allows easy harassment of ASEAN fishing vessels and if ASEAN nations try to use their own naval power to pushback, rapid massing of Chinese Coast Guard ships in response.²²

In this salami slicing, China has been careful to try to shift the decision on the use of armed force onto others. Coast Guard and other paramilitary vessels have used crowding manoeuvres and ramming tactics, and turned high pressure fire hoses onto the crews of other ships. Importantly, the Chinese have avoided directly firing at other nations' fishing vessels. In this, defensive actions by other South China Sea claimant nations have been obstructed through the use of large numbers of apparently unarmed Chinese fishing boats swarming in the disputed areas in large numbers.

Some of these fishing boats include the People's Armed Forces Maritime Militia, a reserve force of civilians mobilised when necessary to support coordinated grey zone activities. As part of this, the Hainan provincial government has built 84 large militia fishing vessels with reinforced hulls

and ammunition storage, manned by salaried ex-PLA Navy and Coast Guard sailors, and which frequently operate across the Spratlys.²³ In March 2021, some 220 large maritime militia vessels swarmed Julian Felipe Reef in the southern South China Sea and within the Philippine EEZ. The ships were anchored in line formation and showed no indication of fishing, only the blocking of others from mooring.²⁴

The emphasis on taking forceful but unarmed actions is now being built into the Chinese Coast Guard. The Chinese Coast Guard has built new 12,000 ton ships, the largest such vessels in the world, able to shove aside ASEAN's much smaller coast guard vessels and warships, or threaten with ramming.²⁵ For example in April 2020, a 3,500 ton Chinese Coast Guard ship rammed and sank a wooden hulled Vietnamese fishing vessel operating in disputed waters.

For all disputants, avoiding firing first is a major objective in that much international law approves the use of armed force in self-defence but not in aggression. China's considerable emphasis on this aspect is intended to help legitimatise its ongoing actions as fundamentally peaceful, while allowing it to take the moral high ground if another fires first. In this, the Party has apparently given the PLA orders to not fire the first shot, advised the US Navy of this instruction and publicly revealed the order as a means of keeping any incidents at sea under control.²⁶

To assist making any future Chinese use of force in the South China Sea appear legal, the Party has devised numerous laws ostensibly extending its domestic enforcement powers across all and any vessels operating in the 80% of the South China Sea China claims.²⁷ These enforcement powers include boarding, inspecting and if necessary using armed force.²⁸ Such unilateral legal manoeuvres aim to progressively shift almost all of the South China Sea to be under Chinese domestic law and could be used by China to justify using violence in some future incident.²⁹ China can then remain projecting the Party's preferred image of being a peaceful nation; its actions are simply only enforcing its own laws.

In an early use of its new domestic law internationally, China demanded Indonesia stop exploratory drilling for oil and natural gas near the Natuna islands and inside the Indonesian EEZ. To enforce its wishes, Chinese Coast Guard ships were deployed; these were then countered by Indonesian Navy and Maritime Security Agency vessels. However, in an important change from earlier such events, China issued diplomatic notes that argued the drilling location was Chinese territory as it fell within China's South China Sea nine-dash line claim.³⁰ Muhammad Farhan, a member of the Foreign Affairs and Defense Committee of the Indonesian House of Representatives stated that this was "the first time China had sent a diplomatic communiqué on territorial claims in the South China Sea or North Natuna."³¹

China recently introduced similar laws applying to land borders. These laws suggest that China has stopped considering its disputed sea and land borders as problems to be negotiated bilaterally with others. Instead, China's land and sea borders are now as it unilaterally decides.³²

The Senkaku's airborne grey zone

China has created a significant dispute with Japan over the Senkaku Islands claiming ownership based on obscure legal claims and domestic law creation. China's grey zone activities around the Islands are broadly similar to those in the South China Sea but with one major difference. Instead of being primarily maritime, in the Senkakus, China is also undertaking significant grey zone actions in the air.

Since the early 2000s, the PLA Air Force has undertaken low-rate air incursions into Japan's Air Defence Identification Zone (ADIZ) around and above the Senkaku Islands area. An ADIZ is a block of international airspace adjacent to a country's territorial airspace where the country can request unknown approaching aircraft comply with identification protocols. If the approaching aircraft do not, they may be intercepted by a fighter aircraft that can visually determine who the intruders are.³³

In the 2009-2013 period, the number of incursions annually into Japan's East Asia Sea

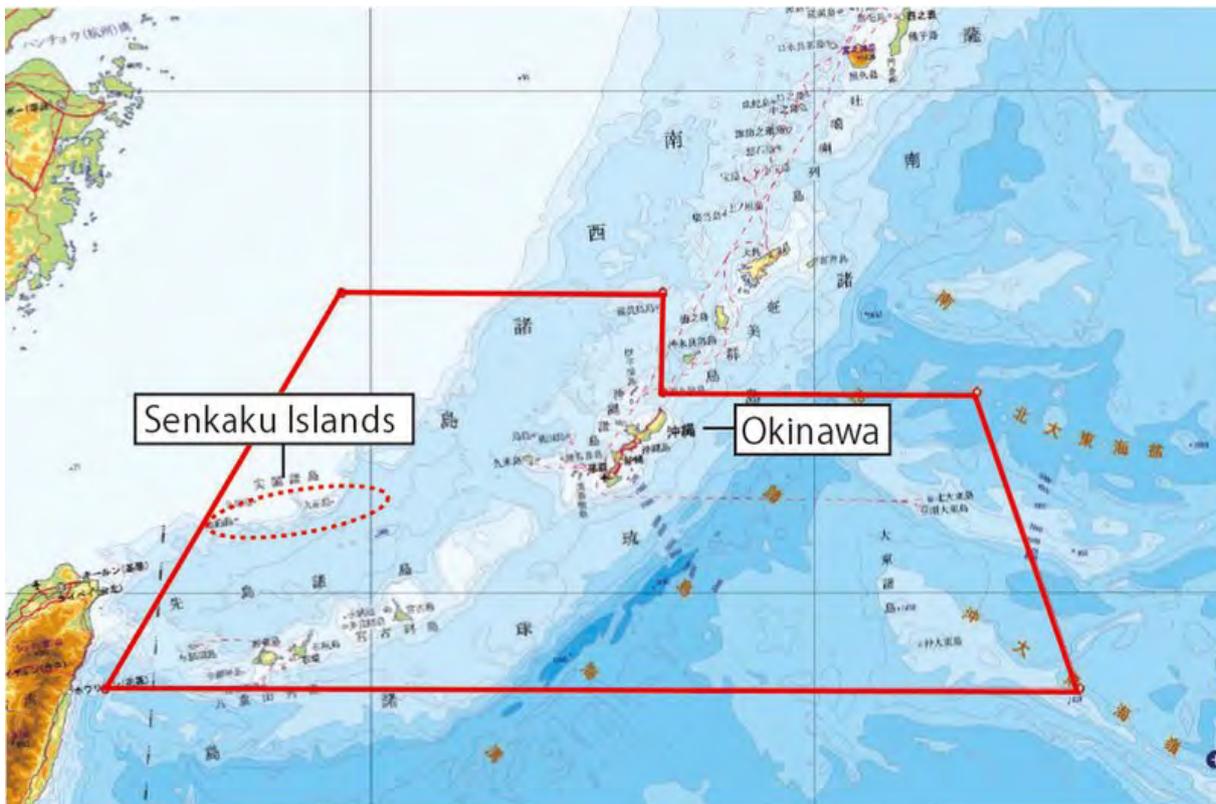
ADIZ rose sharply from being a few dozen to several hundred. In November 2013, China declared the airspace above the Senkaku Islands as a Chinese ADIZ, thus overlapping this with Japan's ADIZ. China asserts that aircraft traveling through China's ADIZ must comply with China's Ministry of National Defense rules and, if not, may be intercepted by PLA Air Force aircraft.

Frequently, Japanese Air Self Defense Force (JASDF) fighters are scrambled to identify ADIZ-penetrating PLA Air Force and PLA Navy aircraft. The rate of incursions has risen from about 306 annually in 2012 to peak at about 850 in 2016, with aircraft tracking towards the Senkaku Islands.³⁴ The rate of penetration into the southern part of Japan's ADIZ by PLA Air Force and PLA Navy aircraft remains high as JASDF scrambles highlight: in FY2017: 500, FY2018: 638, FY2019: 675 and FY2020: 458.³⁵ In April to June 2021, some 94 scrambles were flown against intruding Chinese

aircraft.³⁶ Averaged over the year, this represents about one-to-two penetrations each day, every day. Most Chinese aircraft are fighters with the occasional long-range bomber and reconnaissance aircraft.

To respond, the JASDF mainly uses its fleet of some 200 F-15J/DJ aircraft. The F-15 is an excellent platform for such air policing tasks, having a fast cruise speed to reach the intruding aircraft quickly, a good range and endurance, and reasonable manoeuvrability for close in visual identification of air targets. Since 2016, the JASDF have typically launched four aircraft for each scramble. The front two aircraft undertake the visual identification while the two aircraft in the rear handle any additional foreign aircraft that join in and try to interfere. Scrambles now also include more frequent use of E-2C airborne early warning and control aircraft to coordinate the intercept, sanitize the airspace and avoid being tactically surprised. The JASDF takes its daily scrambles very seriously.

Figure 2. Senkaku Okinawa Reversion map



Source: [Wikimedia Commons](#)



Source: Aomori, Japan - September 07, 2014: Japan Air Self-Defense Force Boeing F-15J Eagle fighter aircraft.

The daily scrambles are gradually wearing the F-15 fleet out. The 'new normal' heavy scramble rates are using up the fatigue lives of the JASDF F-15 fleet considerably sooner than was planned. The concern is that China has some six times as many fighters than the JASDF and could further ramp up air intrusions whenever it considers appropriate. The in-service life of Japan's F-15 fleet is now almost a decision that lies with China. A recent RAND study determined that:

China's air activities have...spurred Japan to extraordinary measures, such as reorganizing its air defence structures, including establishing new units in all domains, doubling the number of fighters in the sector to respond to Chinese aviators and increasing its defence spending...In the long term, Japan's approach to responding to the higher level of Chinese military air activity is not sustainable.³⁷

Somewhat unwillingly, the JASDF has conceded defeat and is now limiting scrambles to only being in response to aircraft on track to

penetrate Japan's territorial airspace, rather than its much larger ADIZ. In the first nine months of Fiscal Year 2020 the JASDF scrambled only 331 times, 192 less than the same period the previous year.³⁸ (Note: these figures include scrambles against Russian as well as Chinese military aircraft.)

Such a move is a noticeable strategic shift for Japan. Japan considers that China is engaging in a salami-slicing strategy of incremental power projection to gain de facto control of the Senkaku Islands, just as it successfully did to some islands in the South China Sea. China's 2013 ADIZ declaration over the islands is seen as a part of this strategy. With Japan cutting back on intercepting intruding Chinese aircraft, this may create a vacuum that China will try to fill. Moreover, if China's air activities go unchallenged, other countries may gradually come to accept or at least acquiesce to China's claims over Japan's.³⁹ This worry drives Japan to believe it needs to continuously demonstrate Japan's strong determination to maintain the sovereignty of its territory. For Japan, the scrambles have a major role in creating a

favourable security environment and deterring future Chinese adventurism.⁴⁰

Conclusion and a most worrying development

In some respects, one of the most impressive aspects of China's grey zone activities is the Communist Party's tenacity. Quite expensive actions involving numerous militia units, many state-owned enterprises, the Chinese Coast Guard and the three branches of the PLA have been undertaken and then sustained over more than a decade. While the Party's objective of gaining and then maintaining strategic advantage over others has probably been achieved, this is an intrinsically costly strategy. Moreover, in the design of the strategy being that it will never end, the Party's grey zone activities will remain a never-ending burden on Chinese society and the economy.

In that regard, nations planning to challenge Chinese grey zone activities need to also take a long-term perspective and design counters that are sustainable. Japan's problems with sustaining ADIZ air defence coverage highlights how Chinese extravagance could overstretch a smaller nation's capabilities and capacities. There are echoes here of the 1950s Cold War period when there were real concerns about Western democracies having to turn themselves into garrison states to meet the Soviet challenge. In the end, it was the Soviets who became a garrison state and collapsed, and the democracies that struck a better balance and thrived. Meeting the Chinese Communist Party's grey zone challenge may require a similar degree of innovation and persistence.

There are also worrying signs concerning the evolution of China's grey zone techniques. There is a long history of border confrontations between India and China, and even a war in 1962 that China resolved in its favour. In recent years, China has been steadily ramping up its grey zone activities along the so-called Line of Actual Control (LAC) which separates the two nations. In early May 2020 in the eastern Ladakh part of the border, the PLA began pushing forward into areas previously under Indian control and blocking Indian border patrols.

On 15 June, in an apparently pre-mediated move, PLA Ground Forces ambushed a small Indian patrol party leading to a prolonged night-time battle involving hand-to-hand combat, rocks and wooden clubs. While no shots were fired, it resulted in twenty Indian soldiers being killed, including Colonel Santosh Babu, Commanding Officer 16 Bihar Regiment. This clash marked a new point in the evolution of Chinese grey zone tactics.⁴¹ Previously, grey zone actions did not intentionally aim to kill others.

The introduction noted that significant grey zone actions are commanded at the highest level given the fear of unwanted escalation. Given the PLA's initial crossing of the LAC in April-May was significant in scale and intent, it seems reasonable to assume that the decision to then move to deadly violence was both deliberate and made at the highest levels, not inadvertently by some low-level tactical commander. Future Chinese grey zone activities may now also turn violent by intent.



[Wikimedia Commons](#)

GREY ZONE FUTURE EVOLUTIONS

The future is uncertain but is not necessarily completely random. In the case of grey zone activities, the very nature of such operations means a resilient peace must be maintained. If the future does not feature this, then other kinds of military operations will be called for, but not grey zone ones. Grey zone activities are both a feature of our time and a product of our time.

There is a tendency in thinking about the future to imagine it as simply the present extended. Alan Gyngell, Head of the Office of National Assessments 2009-2013, wrote of attending a major US conference in 1988 on the future of the Soviet Union: “the astonishing thing in retrospect was that not one of us came close to predicting that just 12 months later the Berlin Wall would be torn down... and that within three years the Soviet Union itself would cease to exist.”⁴² The key issue in missing the end of the USSR was that the defence agencies dealt in what was *expected* to happen not what *might* happen.

The future remains uncertain but it is prudent to be aware of the possibilities of change. The future may not be like the past. In exploring

future possible evolutions of the grey zone technique, China’s experiences as a major practitioner are useful to discuss. There are several issues of note.

The first is that the concept of grey zone activities may have a life beyond which its utility declines. The possibility was mooted earlier that the grey zone may become irrelevant if the resilient peace fails. The notion some have of China’s possible return to a rules-based order—they suggest in 2035—further highlights grey zone actions could also end because of positive, rather than negative factors.⁴³

Such considerations can help place grey zone activities into a future-oriented context however the framework needs to be much more specific to be useful. The earlier discussions of grey zone theory and practice suggest that in terms of its application in a specific circumstance there are two principal variables. These are whether violent or non-violent actions are undertaken and whether non-military or military instruments are used.

In reality, most grey zone implementations will be somewhere between those four extremes of

violence/non-violence and non-military/military. This characteristic makes the use of a quad chart appropriate as it visually avoids making a too rigid distinction between the four cells, as a tabular format might.

The four drivers create four possible alternative futures: 'Playing by the rules China', 'Whatever it takes China', 'Pushing the envelope China' and 'Do as you are told China'. These are the manner

in which Chinese grey zone activities might be undertaken irrespective of the context that eventuates, but assuming the geostrategic environment remains allowing such activities. None of these four futures is considered more probable than the others. Instead, the desire is that the future that actually occurs is broadly captured somewhere within the wide span of possibilities encompassed. These worlds are briefly described in the Figure 3.

Figure 3. Possible grey zone futures



The 'playing by the rules China' is an optimistic future where a responsible stakeholder China abides by the rules to which it has agreed with others. The 'whatever it takes China' is a minor deterioration from now and is perhaps a near-term prospect. The 'pushing the envelope China' is an evolved future where much greater use is made of the PLA but in a non-violent way. The 'do as you are told China' is a near worst-case possibility that is arguably on the limits of grey zone activities; there would be a high risk of peace breaking down and serious armed conflict starting. An indicator and warning of this might be the shoot down of an uncrewed maritime surveillance drone.⁴⁴

Chinese grey zone activities need to be considered not just as static, isolated events. Instead, they are conducted within an integrated campaign plan extending over lengthy periods, possibly decades long. Given this, the activities need to be thought of as dynamic and steadily evolving but not always necessarily in a worsening direction. As these

long-duration activities are undertaken at the direction of the highest levels of the Chinese Communist Party leadership group, they could as easily be wound back towards something approximating the 'Playing by the rules China' future. The converse is equally conceivable.

Ascertaining the direction Chinese grey zone activities are evolving towards could permit early indication of China's likely next steps. In this, the broad trendlines appear important to track as these could provide warning of future potential developments. Suitable responses could then be considered in a measured manner and without the time pressures induced by a sudden, unexpected crisis. To reiterate, the trendlines may not necessarily be negative. However, the killing of twenty Indian soldiers on the border with China is a worrying development. Monitoring the trendlines may ensure future Chinese actions grey zone do not surprise and create a degree of panic.



US Lt Jessica Naranjo (right) speaks to People's Republic of China, People's Liberation Army (Navy) medical personnel from the hospital ship Peace Ark during a tour of the Military Sealift Command hospital ship USNS Mercy, July 2014. ([Wikimedia Commons](#))



RESPONDING TO GREY ZONE ACTIVITIES

China uses a variation of strategic gradualism in its grey zone activities that involves “the slow accumulation of small changes, none of which in isolation amounts to a *casus belli*, but which add up over time to a substantial change in the strategic picture.”⁴⁵ This series of incremental steps are designed to be the catalysts to change the existing strategic situation in China’s favour. In this, the Communist Party’s leadership is willing to be patient to achieve a transformation without a risky destabilisation that could lead to major conflict. Mazarr writes that ‘The key to a grey zone campaign is not so much the tools...as much as the phased and incremental way they are employed.’⁴⁶

With the Chinese grey zone strategic gradualism a shape-shifting, chameleon that evolves over time in incremental steps, the response might need to be similar. This means adopting a measured forward planning approach that allows iteration step-by-step into the future. This is in contrast with more conventional planning that works backward from an identified end state.⁴⁷

The step-by-step approach replicates China’s advantage in being able to proceed carefully, permitting changes along the way as necessary to avoid triggering a major response from the Chinese side. It also means that the Chinese Communist Party leadership group adjusts with each step and becomes accustomed to the new normal before the next one; the incremental approach means each pushback does not appear as escalatory or as suddenly threatening as each is undertaken.

Operational Level

The specific implementation of the measured forward planning approach depends on the context. The approach in itself is simply a framework to apply to a problem. In the Chinese grey zone case there are several issues that might usefully inform such a framework.

First, China’s grey zone activism is within a deliberately protracted campaign. Countering it using the measured forward planning approach will, by design, need to be similarly protracted.

Second, an important part of a successful counter grey zone approach may be the ability

to respond quickly to new developments. Allowing a new Chinese grey zone step to become the accepted 'new normal' may make reversing it, or even registering disapproval, problematic.

Third, high quality intelligence is an essential element. This is both quantitative intelligence in terms of detailed information about each participating military unit and civilian entity, and qualitative intelligence about each of the various actors so as to understand how they will react. Given this, there will be a good understanding of the political and military dynamics shaping the situation as it evolves. This element makes it important before adopting a measured forward planning approach that adequate intelligence resources, collection systems and skilled analysts are available.

Fourth, in matters of force development, investments in counter grey zone capabilities should generally acquire a wide range of different means. Being dominant in a single area is likely to be less important than baseline capabilities across many mutually supporting ones. Grey zone activities by their nature can be readily realigned to make a particularly impressive single capability of an opponent little use when responding to another's grey zone actions. A wide range of means is more difficult for unfriendly grey zone activities to work around and gives greater response flexibility.

Fifth, the approach would be most effective if it was complemented by involving regional actors diplomatically so as to create the political manoeuvre space for timely action.⁴⁸ Broad-based consultations with regional partners would create a permissible political environment, ensure worries over possible unwanted escalation were addressed, public statements were consistent and harmonised, and the timing of media messages was coordinated.

Finally, in addition to diplomacy, selective institution building may be useful including developing grey zone optimised crisis resolution mechanisms. These may feature military-to-military deconfliction hotlines between all involved—including China—in areas of grey zone tensions so as to help avoid unwanted

military escalation and accidents. Institution building may also incorporate expanded ways to share information among partner armed forces and militaries, an expansion of military-to-military contacts and formalised systems for passing appropriate real-time intelligence.

Tactical Level

To achieve success, Chinese grey zone activities integrate a number of different means across multiple domains. For example, the 'cabbage strategy' can include commercial fishing boats, the armed maritime militia, fisheries patrol vessels, Coast Guard ships and naval warships of various types, PLA Navy and PLA Air Force aircraft, and at times oil rig platforms, together with social media campaigns, radio misdirection, cyberwarfare and GPS interference. This array of means when combined has a synergetic effect and together are much more formidable in prosecuting a grey zone action than individually. To counter the cabbage strategy, a blended response comprising four steps might be useful as follows.⁴⁹

Disaggregate the local grey zone strategy. A measured response concept might accept the complexities of the cabbage strategy and not try to counter it as a whole. Instead, the response might aim to disaggregate the collective threat into separate un-supporting elements and then counter each specific vulnerable element as was practical. For example, individual elements, such as the Coast Guard vessels, PLA Navy maritime reconnaissance aircraft or the Chinese-sourced GPS jamming might be selectively targeted for response actions. Given that Chinese grey zone actions are carefully planned before being implemented, disaggregation during it will cause confusion, incoherence and mistakes. Such unplanned and unpredictable situations will worry lower level, on-scene commanders while causing increasing consternation higher up the command and control chain.

Seek marginal gains. Just as the impact of grey zone activities stems from the cumulative effect of carefully coordinated actions, the measured response could aim to tip the balance in small steps. The most viable approach is to

seek marginal gains through targeting accessible vulnerabilities. This may have the greatest impact if it is possible to target those specific assets central to each local grey zone campaign.

Think performatively. A measured response posture may be best built around the means considered most credible by China, rather than the most threatening measures in terms of punishment. The later may not be credible to Chinese decision-makers as they may hold such means unlikely to be used for fear of escalation. This cuts back to the idea of declaring redlines and whether the entity being deterred thinks the retribution promised if the redlines are crossed is improbable in a time of resilient peace.

Focus on the actors involved. Central to all successful counters is understanding those who it is wished to rebuff. The specific Chinese Communist Party decision-makers at the

various levels controlling a local grey zone activity may have goals, motivations and vulnerabilities that can be discerned and exploited to inform carefully tailored tactical actions. The more these actors can be understood, the more tailored the countermeasures can be made and the more effective they will be.

The forward planning approach and the tailoring of the measured response actions are in congruence with the incremental, strategic gradualism the Chinese grey zone approach uses. The overall intent is to frustrate, undermine, and deny individual Chinese elements being used collectively in the local grey zone actions. As the discrete frustrations add up, they may tip the balance away from grey zone activities being an attractive or useful option for Chinese statecraft.



Source: Kawasaki P-1 marine patrol aircraft (Shutterstock)



AUSTRALIA-JAPAN COLLABORATIVE OPPORTUNITIES

Japan and Australia are both increasingly concerned about China's grey zone activities. This raises the possibility of collaborating together to better meet China's grey zone challenges. Such cooperation is eased by the protracted nature of the grey zone activities; there is adequate time to carefully consider, develop and implement countervailing approaches. Even so, China possesses considerably greater resources than the two nations, even when they are combined. Japan and Australia would need to offset such mass using clever operational concepts and optimised technological counters.

Air policing operational concept

As China begins to operate and base PLA Naval and Air Force aircraft in the South China Sea, the airspace in this area is becoming more crowded and the possibility of an air incident is increasing. Australia has an interest in such concerns in being a key member of the Five Power Defence Arrangement that comprises Australia, Malaysia,

New Zealand, Singapore and the United Kingdom.

Such worries were highlighted recently when some 16 strategic air transport aircraft of the PLA Air Force flew across the South China Sea to about 60nm north of Sarawak State in East Malaysia. The Ilyushin Il-76 and Xian Y-20 aircraft flew in an "in-trail" tactical formation at an altitude of between 23-27,000 feet.⁵⁰ While legal under international law, the lack of prior advice to Malaysia that their EEZ would be overflown by a large military aircraft formation and without that formation contacting the regional civilian air traffic control centres, raised flight safety and political concerns. A pair of Royal Malaysian Air Force Hawk light combat aircraft was sent to intercept and visually identify the Chinese formation.⁵¹

The Hawk aircraft in a doctrinal sense performed a task termed air policing. In peacetime this involves the monitoring of designated airspace and securing its integrity.⁵² There appears an emerging need for such air

policing in selected parts of the southern and western South China Sea.

China has recently begun to use its passing of a new domestic law to spuriously claim national sovereignty over the 80% of the South China Sea within its nine-dash line. In the late-2021 case noted earlier, major portions of the Indonesian EEZ were declared to be now Chinese territory. This unilateral legal manoeuvre will most likely be attempted again and at some stage possibly to try to justify establishing a Chinese ADIZ across parts, or perhaps most, of the South China Sea.

A situation could then arise that is broadly similar to that encountered over the Senkaku Islands today and in which air policing of some type may be necessary. As noted earlier, in the East Asia Sea, Japan is having difficulty in maintaining a continual air policing posture and is reducing this to a selective one.

The Royal Australian Air Force (RAAF) could periodically contribute fighter aircraft to Japan's current ongoing air policing effort. This would assist a strategic partner, develop expertise in such practices useful for any future Chinese ADIZ declaration in the South China Sea and improve knowledge of Chinese air tactics, techniques and procedures. The occasional deployment of several RAAF fighters to an airbase in Japan would leverage off the Japanese air defence network, experience and support infrastructure. Such a deployment would make use of the valuable air training opportunities the PLA Air Force and PLA Navy provide in flying aircraft into the East China Sea on a daily basis.

Such deployments are made feasible under the new Australia-Japan Reciprocal Access Agreement that gives both nations' defence forces enhanced access to operate in each other's country. Negotiating the Agreement proved protracted with final agreement reached in January 2022.⁵³

The most suitable fighter aircraft for a RAAF deployment would be the F/A-18F Super Hornet rather than the newer F-35. The JASDF is operating the F-35 however the service does not favour using this aircraft type for the air policing, quick reaction scramble role.⁵⁴ A Super

Hornet deployment might also include a KC-30A air refuelling aircraft to support the air policing tasking and extend the airborne duration of the fighters over the more distant parts of the East China Sea.

In time, such a deployment might grow to include the E-7A Wedgetail Airborne Early Warning and Control aircraft. The JASDF currently uses E-767 and E-2C/D aircraft for this role and might consider supplementation by an occasional RAAF aircraft valuable. More uniquely, a deployment of a couple of EA-18G Growler aircraft periodically as part of the Super Hornet air policing package would helpfully train Growler crews in a real-world heavy electronic environment crowded with radar systems of many different types.

The Super Hornets, Growler and Wedgetail units would all benefit from taking advantage of the air training opportunities that PLA Air Force and PLA Navy air units are providing daily in the East China Sea. After becoming aware they were simply giving very valuable, free training to RAAF aircrews, the PLA Air Force and PLA Navy could reduce their rate of ADIZ incursions. In that regard, ADIZ penetrations occur at higher rates towards the end of each month, indicating they are part of an established Chinese military training schedule.⁵⁵ The RAAF replicating the way the PLA Air Force and PLA Navy is using the JASDF could be useful.

Surveillance drone operational concept

In 2020, grey zone 'deterrence by detection' was suggested. This concept assumed that countries undertaking grey zone activities would be deterred if they knew they were under constant surveillance and that any such actions would be widely and quickly publicized. In this, successful deterrence would not require detecting grey zone activities with complete confidence. Instead, the likelihood of detection should simply be sufficiently high enough to create uncertainty in a nation's leadership groups.⁵⁶ Moreover, the publicizing of detected grey zone activities would not need to include any conclusions or normative assessments. Simple warning of such activities being

underway would be sufficient for the concept to operate. Deterrence by detection could be realised through using a network of uncrewed aircraft systems to maintain real-time, persistent maritime surveillance in key geographic areas.

Australia is acquiring 12 MQ-9B SkyGuardian and seven MQ-4C Triton uncrewed aircraft systems to enter service later this decade.⁵⁷ The SkyGuardian is a relatively small, lower-cost turbo-prop engine aircraft able to fly at medium altitudes (around 20–30,000 ft) for extended periods of time. In contrast the Triton is a large, expensive turbofan engine aircraft that flies at high altitude (50–60,000 ft) and has a long endurance. In Australian service both are optimised for maritime surveillance. The Triton is similar to the Japanese Self Defence Force's three new RQ-4B Global Hawk drones, although these have

overland surveillance sensors instead of maritime ones.⁵⁸ All of these drones have exceptional loiter time compared to manned aircraft.

The deployment of Australian SkyGuardian and Triton drones to Japan would allow the deterrence by detection concept to be implemented easily in the East China Sea and with more difficulty in the northern part of the South China Sea. Persistent surveillance in the East China Sea area could be met by maintaining one SkyGuardian on station from four drones deployed. This could be complemented by periodic sweeps across the northern South China Sea and the East China Sea by one Triton. For such tasks, the Japanese Air Self Defence Force's Naha Air Base in the Okinawa Island group is very well-located. This is the home airbase for JASDF fighters and a squadron of P-3 Orion maritime surveillance aircraft of the Japanese Maritime Self Defence Force.



JMSDF 5AW P-3C parked at Naha Air Base in the Okinawa island. ([Wikimedia Commons](#))

The US Navy deployed two Tritons to the Misawa JASDF airbase in northern Japan for six months in 2021.⁵⁹

Deterrence by detection further relies on being visible. It is important for all to know that the area is being continually monitored for indications and warnings of grey zone activities. Presumably, China would also 'watch the watchers' but in doing so use up resources rather than employ them for other less desirable purposes. In this, the high vulnerability of the SkyGuardian drone to air defence systems becomes a useful attribute. This low performance air vehicle cannot be erroneously perceived as a high capability offensive weapon system but, at the same time, an attack on the drone is deterred as it would cause an unwanted escalation in regional tensions.⁶⁰ The SkyGuardian is a visibly non-confrontational platform compared to most crewed military aircraft.

Prototype warfare technological opportunities

Chinese grey zone activities can be innovative and imaginative especially in the use of non-military equipment and the capabilities of state-owned enterprises. Accordingly, conventional military forces equipped to fight major wars may not have the best capabilities at hand to respond to new Chinese grey zone challenges. Being able to quickly access new low-cost technological solutions optimised for the specific grey zone challenge encountered might be more efficacious.

Collaboration between Australian and Japanese research organisations and companies could focus on quickly bringing suitable technologies into limited service quickly. This would be an application of emerging prototype warfare concepts to meet the current and evolving grey zone challenges.

The prototype warfare concept has two phases. In the first, a wide array of diverse prototypes are developed under the new fourth industrial revolution process and then evaluated in short experimentation programs. In the second phase, prototypes that have proven successful in the

trials are produced in limited numbers and quickly introduced into-service. The intent would be to rapidly field a variety of low-cost, less complex systems and then replace these with improved variants or something totally new on a regular basis. It may seem calling the small number of prototype systems in service 'short-life cycle capabilities' might be more accurate than the 'prototype warfare' phrase. However, the phrase nicely captures that these limited production items are rather immature and less than fully developed.⁶¹

There are several technological areas where rapid prototype solutions might have value. Firstly, artificial intelligence (AI) and big data analytics could be jointly developed to assess and fuse data collected from a range of commercial and selected military sources to provide a comprehensive, near-real time picture of activities in selected parts of the East and the South China Sea.⁶² The use of AI could also allow such a system to predict, with varying degrees of precision, the movements and actions of the various ships and aircraft operating in that area.

Such a system could be designed so as to be able to provide the fused data picture quickly to regional nations – including possibly the Chinese Coast Guard and PLA Navy – to help avoid accidents, aid oceanic management activities and if necessary, highlight grey zone actions as they begin. Moreover, there would be the option of giving global access to the picture through putting it online on the world wide web. This would be very useful in the difficult task of South China Sea fisheries management and in preventing further environmental damage especially through over fishing and reef destruction.

Second, robotic autonomous systems (RAS) have great potential for improving East and South China Sea maritime surveillance. The use of drone aircraft has already been mentioned. The use of RAS envisaged here would be in drifting or propelled surface or sub-surface sensor-equipped robots collecting and feeding data into the earlier described maritime surveillance system. Such a RAS application is examined further elsewhere.⁶³



Third, secure navigation and communication systems are likely to become increasingly important. As noted earlier, there is the possibility of GPS jamming and spoofing in some envisaged Chinese grey zone futures. Having a counter-capability at hand would allow a quick response to this threat if it arose and equally having such a capability might deter GPS jamming at all. In that regard, communications signals, including Wi-Fi, can also be jammed or spoofed leading to service denial or misdirection. Specialist technologies can assist countering such attacks but need to be combined with adequate operator training.

Fourth, there appears a need to devise counter-deception techniques. China has apparently started to use deceptive tactics including going 'dark' by turning maritime automatic identification systems (AIS) off and using fishing boats to conduct covert surveillance operations. British research agency QinetiQ considers that to counter this new signals intelligence technology able to identify suspicious activity and determine intent is needed. Such equipment the agency believes might be best carried by low-observable airborne and subsea uncrewed vehicles given crewed platforms risk escalating tensions.⁶⁴

An emerging alternative might be nanosats, collaboratively developed and launched optimised for countering grey zone challenges. An example is the Kelos Scouting Mission nanosat (<10kg

weight) that uses radio frequency sensors to detect, identify and geolocate concealed maritime activity, such as fishing vessels with inactive AIS.⁶⁵ Such alternatives are feasible because technological advances driven by the fourth industrial revolution are dramatically lowering the costs of space operations. Such performance at an affordable cost means middle powers like Australia and Japan are increasingly able to launch and operate their own national space-based systems able to counter surface vessel deception techniques.⁶⁶

Collaboratively developed Australian-Japanese nanosats could collect data to help build a difficult-to-deceive picture of grey zone activities underway across the East and South China Sea. The nanosats would be designed for the specific grey zone deception activities of most concern and launched into the optimum orbits. Moreover, as the grey zone activities steadily evolved, new nanosats could be quickly devised and launched.

Fifthly, single role electronic warfare systems could be devised that used commercial-off-the-shelf technology which, while unsuitable for major conflicts, could be effective for a short time in some grey zone situations. Such systems might be optimised against surface surveillance radars fitted to Chinese Coast Guard ships and militia fishing vessels.

Degrading such non-military radars might send a message in a tense grey zone circumstance, as well as making it harder for the Coast Guard ships and militia fishing vessels to escalate their activities. However, in being used, such prototype warfare systems would be compromised and their operation revealed; they may only be able to be used once.

Lastly, communications, navigation and GPS jamming could similarly use commercial-off-the-shelf technology for limited use in grey zone situations. Again, this would aim to jam the systems only onboard Coast Guard ships and militia fishing vessels. As earlier noted, a Chinese technique is to flood an area with a carefully coordinated swarm of armed militia fishing vessels supported by Coast Guard ships. Without working radio communications, navigation sensors and GPS positioning this would be much more difficult. The local grey zone activity would be disaggregated, losing much of its effectiveness.

Considering the jamming of radars, communications, navigation and GPS discussed above, an advantage is that it can be quite precise allowing specific electronic systems to be impacted as and if a grey zone response plan required. A carefully graduated approach can be used that signals resolve, and if needs be intent, permitting a de-escalation. Such offensive electronic warfare is also non-kinetic so it poses no danger to aircraft, ships, infrastructure or people.

A complex technological opportunity

In and beyond this decade, the PLA Air Force and PLA Navy are likely to operate fighter, bomber and surveillance aircraft at higher rates of effort into other nations' EEZs and just outside their territorial airspace. The last two decades of air operations in the East China Sea have revealed that China is willing to undertake costly grey zone air activities for protracted periods. A recent report determined that since 2013, China had undertaken more than 4,400 intrusions into the ADIZs of Japan, South Korea and Taiwan.⁶⁷ The

South China Sea can be anticipated to be included as an area of future intrusive Chinese air operations.

Chinese grey zone air activities have caused the JASDF considerable problems as discussed earlier. This can be seen as a warning to regional air forces of the difficulties the PLA Air Force and PLA Navy could create for them as Chinese grey zone activities steadily expand. The greatest difficulty caused is the need to continually launch crewed fighter aircraft to verify the identity of the intruder and to buttress national airspace sovereignty claims. Uncrewed air vehicles (UAVs) may offer a partial way to address this problem.

A UAV designed for the air policing mission would not need to be armed, simply forward imagery collected of the aircraft intercepted to a distant command centre. Moreover, an uncrewed aircraft may also be less provocative than scrambling a crewed fighter aircraft.

There are already several high-performance UAVs already flying, making developing an air vehicle capable of being commanded to close with an approaching aircraft initially detected by ground-based long range air surveillance radar a straightforward engineering task. While the UAV would need a short-range sensor to find, approach and accurately track the intruder, it would not need to be designed for extensive manoeuvring.

Australia has started flying a high-performance UAV, the so-called 'loyal wingman' is a small high-performance air vehicle incorporating artificial intelligence.⁶⁸ Japan is now in the early stages of developing a similar UAV with plans to fly an experimental testbed in 2024.⁶⁹ Given both countries are deeply interested in the same technology, a focussed collaboration may be possible. Such a project could create an uncrewed air policing system optimised for the regional air environment that included the air vehicle, supporting ground sensors and assets, command and control devices, and the overarching communications network. Alternatively, the two nations could collaborate just on one or more elements of the overall system.

CONCLUSION

China's grey zone strategy is incremental, slowly nibbling way at the edges, making use of diverse military and non-military measures, being careful not to drive others into a major war, controlled at the highest Party levels and enduring. A pushback by another country may mean a temporary Chinese pullback, but the Party's grey zone strategists will be back better than ever having learnt from their short-term reversal. China's particular grey zone model is an approach that is a forever drain on the other, smaller country's resources.

The happy times for Chinese Communist Party strategists may be coming to an end. Their strategies are now creating their own counter. Over the last few years there has been a steadily deepening concern about Chinese grey zone activities. International attention is now focused on them; indeed, they have become of great global media interest. Countries are starting to take actions in response, reorient their defence force structures accordingly and, most worryingly for China, beginning to come together to act collectively.

Mirroring China's incrementalism by responding with a measured forward planning approach might be effective and efficient. Each individual pushback taken would be a separate and discrete step in itself, evaluated for success after use, adjusted or abandoned as necessary, and a means to sense and understand the grey zone environment and the Chinese leadership's groups thinking.

The forward planning approach is not containment or even rollback in the territorial understanding of these words. Instead, it's a response to an unwanted activity, leaving China with the unwelcome choice of either stopping its activity or moving to escalate. The latter is improbable given the success of China's grey zone activities rely on today's peace holding. Escalation would globally signal a significant Chinese Communist Party failure. Nevertheless, any pushback, even verbal complaints, carries risk and needs managing.

China's grey zone activities may however have reached a point where they might have achieved the greatest effects for the effort expended. Beyond this point, greater efforts may yield diminishing effects and bring only marginally greater benefits. China could sense this and change its grey zone techniques, hopefully abandoning its present course and shifting to the optimistic 'playing by the rules' alternative future earlier discussed. On the other hand, China may double down, and move to one of the gloomier futures also described. Chinese grey zone activities may grow more aggressive and violent, as the recent deaths of Indian soldiers on its border with China suggest.

The future is uncertain and so prudence would suggest being prepared, both today and tomorrow, for good and bad possibilities. In this, we have agency and do not have to be a passive participant. The grey zone can be made to cut both ways.

NOTES AND REFERENCES

1. Michael J Mazarr, *Mastering the Gray Zone*, Carlisle: US Army War College Press, 2015, p. 58.
2. The grey zone's characteristics makes it distinctly different to hybrid warfare. Hybrid warfare is a type of war used to try to conclusively win a campaign through the use or threat of violence. This is in sharp contrast to grey zone's gradualism built around carefully avoiding using violence. In broad terms China uses grey zone while Russia employs hybrid warfare; the two techniques or nations should not be conflated.
3. Thomas Dobbs, Garth Fallon, Sarah Fouhy, Tennille Marsh and Machlan Melville, *Grey-Zone Activities and the ADF: A Perry Group Report*, Canberra: Australian Defence College, 2020, p. 5, https://theforge.defence.gov.au/sites/default/files/2020-10/Grey%20Zone_0.pdf.
4. Edward N Luttwak, *Strategy: The Logic of War and Peace*, Cambridge: Belknap Press, 1987, p. 7-65.
5. *Defense of Japan 2021*, Ministry of Defense, p. 41, 247, https://www.mod.go.jp/en/publ/w_paper/wp2021/DOJ2021_EN_Full.pdf.
6. Department of Defence, *2020 Defence Strategic Update*, Canberra: Commonwealth of Australia, p. 5.
7. Some parts of the paper draw on, and expand upon, earlier ideas noted in Peter Layton, *China's Enduring Grey Zone Challenge*, Canberra: Air and Space Power Centre, 2021.
8. Oriana Skylar Mastro, 'How China is bending the rules in the South China Sea', *The Interpreter*, Lowy Institute, 17 February 2021, <https://www.lowyinstitute.org/the-interpreter/how-china-bending-rules-south-china-sea>.
9. Toshi Yoshihara, 'The 1974 Paracels Sea Battle: A Campaign Appraisal', *Naval War College Review*, vol. 69, no. 2, Spring 2016, <https://digital-commons.usnwc.edu/nwc-review/vol69/iss2/6>.
10. Joshua Lipps, translated by An Nguyen, 'Vietnam Marks Anniversary of Naval Clash With China Over Spratly Island Reefs', *Radio Free Asia*, 13 March 2018, <https://www.rfa.org/english/news/vietnam/anniversary-03132018160914.html>.
11. Anne Barker, 'China and the Philippines' tense stand-off over Scarborough Shoal leaves fishermen in fear', *ABC News*, 26 May 2021, <https://www.abc.net.au/news/2021-05-26/china-philippines-stand-off-over-scarborough-shoal/100145586>.
12. Rene Acosta, 'Philippine Navy Brings Supplies to Troops in Second Thomas Shoal One Week After China Coast Guard Attack', *USNI News*, 23 November 2021, <https://news.usni.org/2021/11/23/philippine-navy-brings-supplies-to-troops-in-second-thomas-shoal-one-week-after-china-coast-guard-attack>.
13. Bhavan Jaipragas, 'Malaysia summons Chinese envoy for second time since June over vessels in South China Sea', *South China Morning Post*, 5 October 2021, <https://www.scmp.com/week-asia/politics/article/3151183/malaysia-summons-chinese-envoy-second-time-june-over-vessels>.
14. John McBeth, 'Indonesia mysteriously mum on China sea incursion', *Asia Times*, 27 October 2021, <https://asiatimes.com/2021/10/indonesia-mysteriously-mum-on-china-sea-incursion/>.
15. 'UPDATE: China's Big Three Near Completion', *Asia Maritime Transparency Initiative*, 29 June 2017, <https://amti.csis.org/chinas-big-three-near-completion/>. 'UPDATE: China's Continuing Reclamation in the Paracels', *Asia Maritime Transparency Initiative*, 9 August 2017, <https://amti.csis.org/paracels-beijings-other-buildup/>.
16. Gregory B Poling, 'The Conventional Wisdom on China's Island Bases Is Dangerously Wrong', *War on the Rocks*, 10 January 2020, <https://warontherocks.com/2020/01/the-conventional-wisdom-on-chinas-island-bases-is-dangerously-wrong/>.
17. Oriana Skylar Mastro, 'Beijing's line on the South China Sea: "Nothing to see here"', *The Interpreter*, Lowy Institute, 27 November 2020, <https://www.lowyinstitute.org/the-interpreter/beijing-s-line-south-china-sea-nothing-to-see-here>.
18. Peter Layton, 'Let's face it, China's military now dominates ASEAN', *The Interpreter*, Lowy Institute, 16 January 2017, <https://www.lowyinstitute.org/the-interpreter/lets-face-it-chinas-military-now-dominates-asean>.
19. Jeff Himmelman, 'A Game of Shark and Minnow', *The New York Times*, 27 October 2013, <https://www.nytimes.com/newsgraphics/2013/10/27/south-china-sea/index.html>.
20. Vu Trong Khanh, 'CNOOC Oil Rig Fuels Vietnam-China Tensions', *The Wall Street Journal*, 5 May 2014, <https://www.wsj.com/articles/SB10001424052702303417104579542722782830580>.

-
21. Damon Evans, 'Tensions boil in South China Sea as Petronas drills', *Energy Voice*, 8 May 2020, <https://www.energyvoice.com/oilandgas/asia/240336/tensions-boil-in-south-china-sea-as-petronas-drills/>.
 22. Olli Pekka Suorsa, 'China's Artificial Islands in South China Sea: Extended Forward Presence', *RSIS Commentary*, Singapore: Nanyang Technological University, 19 March 2020.
 23. Office of the Secretary of Defense, *opc.it.*, pp. 71–72.
 24. Sofia Tomacruz, 'Chinese ships swarm reef in West Philippine Sea', *Rappler*, 21 March 2021, <https://www.rappler.com/nation/maritime-militia-chinese-ships-near-juan-felipe-reef-west-philippine-sea>.
 25. Jarius Bondoc, 'China navy disguises as civilian, while coast guard acts as military', *The Philippine Star*, 11 December 2020, <https://www.philstar.com/opinion/2020/12/11/2062929/china-navy-disguises-civilian-while-coast-guard-acts-military>.
 26. Wendy Wu and Minnie Chan, 'South China Sea: Chinese military told not to fire first shot in stand-off with US forces', *South China Morning Post*, 11 August 2020, <https://www.scmp.com/news/china/diplomacy/article/3096978/south-china-sea-chinese-military-told-not-fire-first-shot>.
 27. Zachary Haver, 'CCP governance comes to the South China Sea', *The Interpreter*, Lowy Institute, 12 February 2021, <https://www.lowyinstitute.org/the-interpreter/ccp-governance-comes-south-china-sea>.
 28. Viet Anh, 'An act of war: implications of China's coast guard law', *VN Express International*, 28 January 2021, <https://e.vnexpress.net/news/news/an-act-of-war-implications-of-china-s-coast-guard-law-4227416.html>.
 29. Ryan D Martinson, 'Gauging the real risks of China's new coastguard law', *The Strategist*, The Australian Strategic Policy institute, 23 February 2021, <https://www.aspistrategist.org.au/gauging-the-real-risks-of-chinas-new-coastguard-law/>.
 30. Tom Allard, Kate Lamb and Agustinus Beo Da Costa, 'Exclusive-China protested Indonesian drilling, military exercises', *Reuters*, 1 December 2021, <https://www.reuters.com/article/us-indonesia-china-exclusive-idAFKBN2IG31S>.
 31. 'Indonesian MP: China demanded Jakarta stop drilling in Beijing-claimed waters', *rfa: Radio Free Asia*, 1 December 2021, <https://www.rfa.org/english/news/china/drilling-12012021174345.html>.
 32. Shraddha Bhandari, 'China's new land border legislation: is India ready for Chinese "lawfare"?' , *Asia Power Watch*, 17 November 2021, <https://asiapowerwatch.com/chinas-new-land-border-legislation-is-india-ready-for-chinese-lawfare/>.
 33. Pratik Jakhar, 'Analysis: Why is airspace in East Asia becoming contentious?', *BBC Monitoring*, 31 July 2019, <https://monitoring.bbc.co.uk/product/c200zen7>.
 34. The statistics regularly released by the Japanese Joint Staff helpfully include aircraft track maps. For an example see: *Statistics on Scrambles through the Third Quarter of FY2020*, Joint Staff Press Release, 22 January 2021, p. 3, https://www.mod.go.jp/js/Press/press2021/press_pdf/p20210122_03.pdf.
 35. Japanese FY is 1 April to 31 March. Japan Ministry of Defense, *China's Activities in East China Sea, Pacific Ocean, and Sea of Japan*, September 2021, p. 5, https://www.mod.go.jp/en/d_act/sec_env/pdf/ch_d-act_a_e_210906.pdf.
 36. Joint Staff Press Release, *Statistics on Scrambles through the First Quarter of FY2021*, 9 July 2021, p.2, https://www.mod.go.jp/js/Press/press2021/press_pdf/p20210709_02e.pdf.
 37. Edmund J Burke, Timothy R Heath, Jeffrey W Hornung, Logan Ma, Lyle J Morris and Michael S Chase, *China's Military Activities in the East China Sea: Implications for Japans' Air Self-Defense Force*, Santa Monica: RAND Corporation, 2018, p. 23.
 38. 'Japan scrambling jets less against China as more F-35 deployment eyed', *The Mainichi*, 3 March 2021, <https://mainichi.jp/english/articles/20210303/p2g/00m/0na/018000c>.
 39. Masataka Oguro, *Ensuring Japan's Future Air Security: Recommendations For Enhancing The JASDF's Readiness To Confront Emerging Threats*, Washington: Brookings, p. 19.
 40. As a note of difference, Russia's frequent air intrusions into Japan's northern ADIZ are seen as linked to the US alliance, not to a grey zone threat to Japan's territorial integrity. Some suggest a strategy of 'strategic silence' that would only randomly intercept Russian intruders. This would make Japan's air defence activities unpredictable while sustaining deterrence and cutting numbers of scrambles significantly. *Ibid.*, p. 25.
 41. Manu Pubby and Kumar Anshuman, 'Colonel Babu got hit in the head: A detailed account of the brawl at Galwan with Chinese soldiers', *The Economic Times*, 22 June 2020, <https://economictimes.indiatimes.com/news/defence/indian-soldiers-put-up-a-strong-fight-pla-officer-killed/articleshow/76499852.cms?from=mdr>.

-
42. A Gyngell, 'Death of Dualism', *Griffith Review*, vol. 1, no. 1, Spring 2003, p. 80.
 43. Gabriel Collins and Andrew S Erickson, *Hold the Line Through 2035: A Strategy to Offset China's Revisionist Actions and Sustain a Rules-based Order in the Asia-Pacific*, Houston: Rice University's Baker Institute for Public Policy, November 2020, p. 3.
 44. This could be similar to the Iranian shoot down of a USAF Global Hawk uncrewed vehicle. Jeff Mason and Susan Heavey, 'Trump Says He Aborted Retaliatory Strike to Spare Iranian Lives', *Reuters*, 20 June 2019, <https://www.reuters.com/article/us-mideast-iran-usa-idUSKCN1TL07P>.
 45. Robert Haddick, 'America Has No Answer to China's Salami-Slicing', *War on the Rocks*, 6 February 2014, <https://warontherocks.com/2014/02/america-has-no-answer-to-chinas-salami-slicing/>.
 46. Mazarr, *op.cit.*, p. 60.
 47. Ilan Goldenberg, Nicholas A. Heras, Kaleigh Thomas, and Jennie Matuschak, *Countering Iran in the Gray Zone: What the United States Should Learn from Israel's Operations in Syria*, Washington: Center for a New American Security, Center for a New American Security, April 2020, p. 1, 15-6.
 48. Ilan Goldenberg, *op.cit.*, p. 1.
 49. The four following paragraphs draw on: Multinational Capability Development Campaign, *Hybrid Warfare: Understanding Deterrence*, MCDC Countering Hybrid Warfare Project, March 2019, <https://www.gov.uk/government/publications/countering-hybrid-warfare-information-notes>, pp. 43-4.
 50. 'PLA aircraft training in S.China Sea abide by intl law without entering others' airspace', *Global Times*, 3 June 2021, <http://en.people.cn/n3/2021/0603/c90000-9857169.html>.
 51. Euan Graham, 'Aerial manoeuvres in the South China Sea', *International Institute for Strategic Studies*, 9 June 2021, <https://www.iiss.org/blogs/analysis/2021/06/aerial-manoevres-south-china-sea>.
 52. Viktoriya Fedorchak, 'Ireland in the Contemporary Strategic Environment: The Case in Favour of Air Policing', pp. 38-44 in *Defence Forces Review 2020*, pp. 42-3.
 53. Andrew Tillet, 'Australia, Japan to sign 'landmark' defence pact', *Australian Financial Review*, 5 January 2022, <https://www.afr.com/world/asia/australia-japan-to-sign-landmark-defence-pact-20220105-p59lxj>
 54. Japanese defense ministry quoted in: David Axe, 'Japan has a new air-defense plan - ignore Chinese planes', *Forbes*, 5 March 2021, <https://www.forbes.com/sites/davidaxe/2021/03/05/japan-has-a-new-air-defense-plan-ignore-chinese-planes/?sh=4d3944626f17>.
 55. Mercedes Trent, *Over the Line the Implications of China's ADIZ Intrusions in Northeast Asia*, Washington: Federation of American Scientists, 2020, p. 14. 'Japan scrambling jets less against China as more F-35 deployment eyed', *Kyodo News*, 3 March 2021, <https://english.kyodonews.net/news/2021/03/ef1d2ba18bec-japan-scrambling-jets-less-against-china-as-more-f-35-deployment-eyed.html>.
 56. Thomas G. Mahnken, Travis Sharp and Grace B. Kim, *Deterrence by Detection: A Key Role for Unmanned Aircraft Systems in Great Power Competition*, Washington: Center for Strategic and Budgetary Assessments, 2020, p. 6.
 57. Andrew McLaughlin, 'Feature: SKY GUARDIAN', *ABDR: Australian Defence Business Review*, 9 March, 2020, <https://adbr.com.au/feature-sky-guardian/>; *MQ-4C Triton Unmanned Aircraft System*, Canberra: Royal Australian Air Force, 2020, <https://www.airforce.gov.au/technology/aircraft/intelligence-surveillance-and-reconnaissance/mq-4c-triton-unmanned-aircraft>.
 58. Mike Yeo Tuesday, 'Japan's first Global Hawk begins flying at Northrop's California drone hub', *Defense News*, 20 April 2021, <https://www.defensenews.com/global/asia-pacific/2021/04/19/japans-first-global-hawk-begins-flying-at-northrops-california-drone-hub/>.
 59. Alex Wilson, 'Navy's Triton surveillance drones conclude their first deployment to Japan', *Stars and Stripes*, 25 October 2021, <https://www.stripes.com/branches/navy/2021-10-25/us-navy-mq-4c-triton-drones-japan-misawa-guam-3364803.html>.
 60. Thomas G. Mahnken, et al, *op.cit.*, p. 20.
 61. Peter Layton, *Prototype Warfare and the Fourth Industrial Age*, Canberra: Air Power Development Centre, 2019, p. 24.
 62. *Confidence in Chaos: How to use emerging technologies to combat grey zone threats*, Farnborough: QinetiQ, September 2020, p. 17, <https://www.qinetiq.com/en/insights/grey-zone-warfare>.
 63. Peter Layton, *Fighting Artificial Intelligence Battles: Operational Concepts for Future AI-Enabled Wars*, Joint Studies Paper Series no. 4, Canberra: Department of Defence, 2021, pp. 40-3.
 64. *Confidence in Chaos, op.cit.*, p. 43.

-
65. 'Kleos Scouting Mission Smallsats Deployed', *Satnews*, 10 November 2020 <https://news.satnews.com/2020/11/10/kleos-scouting-mission-smallsats-deployed/>.
 66. Peter Layton, 'Sustainable Middle Power Military Space Operations', pp. 31–44 in 2019, *Project Asteria 2019: Space Debris, Space Traffic Management and Space Sustainability*, Canberra: Air Power Development Centre 2019, pp. 37–9.
 67. Mercedes Trent, *op.cit.*, p. 6.
 68. Valerie Insinna, 'Australia makes another order for Boeing's Loyal Wingman drones after a successful first flight', *Defense News*, 2 March 2021, <https://www.defensenews.com/air/2021/03/02/australia-makes-another-order-for-boeing-made-loyal-wingman-drones-after-a-successful-first-flight/>.
 69. Junnosuke Kobara, 'Japan aims to deploy unmanned fighter jets in 2035', *Financial Times*, 11 January 2021, <https://www.ft.com/content/5e55c6a0-5a2e-4275-941e-1304989957f2>.