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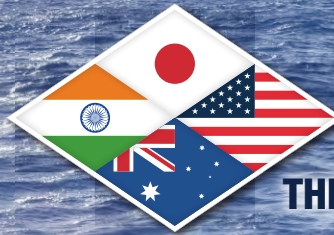
NAVY

THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA

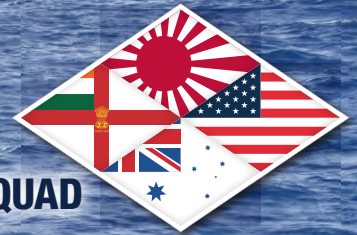
WARGAMING TOMORROW: IT'S POSSIBLE THIS WON'T END WELL



AUKUS



THE QUAD



**THE LEGALITY TO
CHINA'S CLAIMS IN
THE SPRATLY ISLANDS**

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Front cover: HMAS WARRAMUNGA and JNS KAGA Exercise with QUAD Allies MALIBAR 2021 (Image POIS Yuri Ramsey).

The Flags for the QUAD Nations offered by the NLA and *The NAVY* represent, on the left the four quads, with the national flag of India representing the Western Hemisphere; the U.S. the Eastern Hemisphere; Japan the North; and Australia the South. All as quads, in a quad. The flag on the right represents the naval ensigns of Japan; India; Australia and the U.S. — all deriving in part, or full, from the Royal Navy White Ensign.

The Flags of AUKUS are similarly developed by the NLA and *The NAVY* and represent a V in the form of Churchill's Wartime V for Victory capped by a chevron or inverted V used to identify Allied tanks and armour. The UK representing the Western hemisphere; the US the East, connected by Australia to the South. With naval ensigns similarly displayed on the second flag.



TO KNOW YOUR ENEMY, YOU MUST FIRST KNOW YOURSELF [1]

欲知敌人，必先知己

On the inauguration of AUKUS, this Issue of *The NAVY* represents a inception point as Australia and the Global West enters uncharted waters, with a damaged and broken U.S. faltering badly in the face of an aggressive and assertive Communist Party of China (CPC). This journal begins with a paper by Senator (General) Jim Molan AO DSC and Federal Vice President Mark Schweikert on Australian Maritime Strategy. As background, see Jim's recent interview with previous Deputy Prime Minister (the late Rear Admiral Andrew Robertson's (AO DSC) son-in-law) John Anderson, entitled *Australia's Defence Complacency*. [2] The second paper is by a new author to *The NAVY*, Dylan Collaery, examining China's claims to the South China Sea, from a legal perspective. It makes a number of telling points, before concluding:

The disregard for international law and continued militarisation of the South China Sea will have major consequences for the global rules-based order as the risk of conflict increases each year due to the Chinese unwillingness to arbitrate.

The third paper is by Dr Neil Baird and returns forcibly with a detailed technical analysis regarding the Future Submarine (*Attack-class*) Program (FSP) and the recently announced *Collins-class* Life of Type Extension (LOTE). Dr Baird challenges the reasoning behind the LOTE and continuing with the *Attack-class* program. His analysis runs contrary to the NLA President's views in the last issue, that "Defence, Industry, and the Navy...[should] focus on the programme that has been committed to and work *expediently* through it to the end". Neil's objection – building on growing advice from many quarters – is reflected in his choice of title: *A Good Plan Expediently Executed Today, is Better than a Perfect Plan Executed tomorrow*. Noting Dr Baird wrote this paper months before the AUKUS announcement and the decision to go nuclear, he presciently concluded:

There is absolutely no reason not to look, today, to procuring COTS submarines from Korea or Japan; while discontinuing immediately and with due regard, the NAVAL GROUP Attack-class build. Other than if it were to be a nuclear-powered submarine.

The final paper is also by a new author and long-standing reader of *The NAVY*, Geoff Hawkins. Based upon his experience and observations over many years, including service in Army, he considers what the future Fleet should look like. This includes a detailed examination of future and current build programmes for submarines, patrol boats (corvettes), frigates, LHDs and LHAs – including their armament suites. Echoing the points made by the other papers and specifically Senator Molan and Mark Schweikert, Geoff observes that Australia's maritime mission is:

To defend Australia, and its' EEZ and territories (sub-surface, surface, air, space and cyber environments). Defend its' lines of trade and communications. To supply by sea and air, logistic, humanitarian, and armed support anywhere in the world in any weather or climate by day or night as may be required.



JNS KAGA (DDH 182), HMS QUEEN ELIZABETH (R08) and USS AMERICAS (LHA6) In Line Abreast.

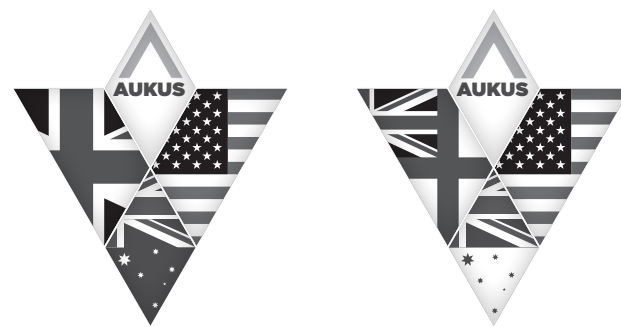
In order to: fight and win as a single unit, or as part of an RAN or ADF or allied task force.

All four papers connect regarding the increased risk of conflict; the need to rapidly procure [COTS] submarines, surface vessels, uncrewed vessels (UUVs, UAVs, USVs), and weapons; close down all programs with deliveries later than 2030; promote leaders (not managers); build ships that are fit for purpose for our mission, as many as we can afford and crew; and apply the doctrine of total Defence.

Sun Tzu observes that "all warfare is based upon deception (所有的战争都建立在欺骗的基础上)". Today, given the extent and penetration of the media-tech monopolies and their gilded, political professional elites, it may be said that "all warfare is based on both perception and deception (现代战争基于感知和欺骗)". The issue regarding perceptions becomes critical – it is "perceptions that become the believed truths; not necessarily reality". This is an incredibly dangerous place to be, since the perception from China appears increasingly "that they have already broken U.S. resistance, without fighting". Perceptions have become reality – a stumbling, apparently much diminished President [3]; a seemingly woke-divided country (emerging from COVID) [4]; a disastrous bug out of the Afghan War, surrendering the country and \$Billions of weapons to the Taliban; failure to listen to advisors regarding the fall, or to liaise with close Allies (many of them warning of impending collapse); failure of accountability – "who resigned?"; and failure to talk with Allies, like Australia. Rather, gratuitous grandstanding and threats on Climate Change. Themselves met with a warning to Presidential Special Envoy John Kerry, by Chinese Foreign Minister Wang Yi (on 1 Sep 2021), to "stop treating China as a threat and an adversary...[climate change] cannot be separated [from strategy, economics and geopolitics]". The exchange occurring on the 70th Anniversary of the ANZUS Treaty, when a pre-scripted message from President Biden committed to calling the PM "sometime soon". Completed on the inauguration of AUKUS.



QUAD Ships with USS NIMITZ Exercising MALABAR 2020.



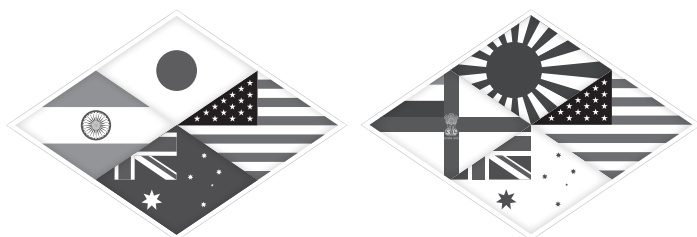
Recognising [Clausewitz's] first rule of war, "that War is nothing but a continuation of politics with the admixture of other means", the Prime Minister might have told John Kerry to "stop treating friends and Allies, as it does its enemies". Noting, perhaps, the third rule that:

Failure to know oneself, [one's Allies], or one's enemy at any one of the [national strategic, strategic, operational and tactical] levels, leads to defeat. Indeed, failure to know oneself, [one's Allies], and our enemy has led to defeat for the United States, while successful application of these principles has led to victory. [5]

The second rule being "to know your enemy, you must first know yourself". [1]

Currently China is practicing *Political Economic Warfare* against Australia – not simply on barley and wine – but Oil and Iron Ore. It has bought up huge supplies and reserves of iron ore, to the point now that it is driving down iron ore prices. While oil prices are remaining stubbornly high – making Australia's COVID-recovery that much harder.

The Navy is an expression of a maritime country – it was what made Great Britain (following the Civil Wars), after which the UK was defined and expressed in / by its Royal Navy. A Navy that also helped define the navies (and countries) of Japan, India, the U.S., and Australia – through custom, law and tradition.



Whereas AUKUS is to some extent contained within 5 Eyes (AUKUSNZCAN), the singular most important alliance to emerge on the world stage in the last two decades is the QUAD. It is foremost a Maritime Alliance. Currently it has no Flag, hence the designs offered by the NLA and *The NAVY*. The flag on the left represents four quads, with the national flag of India representing the Western Hemisphere; the U.S. the Eastern Hemisphere; Japan the North; and Australia the South. All as quads, in a quad. The flag on the right represents the naval ensigns of Japan; India; Australia and the U.S. – all deriving in part, or full, from the Royal Navy White Ensign. Back to the British Civil wars.

An alliance is not simply about exercises. To exist and interoperate politically, militarily, and economically over time, it requires a secretariat. Currently, Australia's National Security Committee (NSC) has no secretariat, akin to the U.S. National Security Agency (NSA). It is managed by the Prime Minister and Cabinet Office (PM&C) – a 1300 (+) quasi-autonomous government organisation (quago), largely staffed by on-loan special advisers (SPAD) from the accountancy consultancy companies (ACC). [6,7] It undemocratically and unaccountably replicates all departments of state and tells Ministers (and PMs) what to do.

To restore accountable leadership and build the QUAD suggests the following:

1. Chief of Defence Force and Chief of Army to resign immediately (as they should have, on the release of the Brereton Report and other CEOs have done for much less) - to provide ADF vital (post pandemic) political freedom of manoeuvre space (PFOM); [6,7]
2. Appoint political secretaries of Navy, Army, and Air Force and create a NSA secretariat, to support the NSC – staffed by public servants, ADF, ASD, ASIO, and co-opted subject matter experts, loyal to the Governor General and Commander in Chief. Nationalise all contracted Public Servants [7];
3. Root out and potentially replace the PM&C and like commissions, corporations, and quagos to restore constitutional, legal, political, ministerial and public service accountability – and reduce the democratic deficit; [6,7]
4. Work with AUKUS to establish a QUAD Secretariat, in Australia – support and fund the building and staffing of a QUAD HQ and its secretariat in either Sydney or (as during WW2) in Melbourne (for reasons also of strategic dispersal);
5. In consultation with our Allies, appoint as the first QUAD Secretary General someone like Senator Jim Molan. ■

NOTES

- [1] This builds on Sun Tzu's quote "Know the enemy and know yourself" and Clausewitz's observation that "[you] must know both your own will and capability in order to compel the enemy".
- [2] See: John Anderson Direct: With Jim Molan, Senator and Former Major-General John Anderson, *John Anderson Direct: With Jim Molan, Senator and Former Major-General*, 30 Aug 21.
- [3] See letter to the President, rep._jackson_letter_to_president_biden_regarding_moca_test.pdf (house.gov), dated 17 Jun 21.
- [4] Lieutenant General Robert E. Schmidle, USMC, Ret. and Rear Admiral Mark Montgomery, USN, Ret. (2021) A Report on the Fighting Culture of the United States Navy, *Report to Congress*, July.
- [5] P. A. DeSutter (1994) Sun Tzu, Clausewitz, and the Importance of Knowing Yourself and the Enemy, US National Defence University, *Report approved by Congress for national release*, ADA440962.pdf (dtic.mil)
- [6] Baird, N., Australia - Pyrrhic Defeat or Critical Juncture? Part 1. *The NAVY – Journal of the Navy League of Australia*, 2020. Vol. 82, No. 4, Oct-Dec: p. pp. 15-19.
- [7] See Baird, N., Australia - Defeat or Juncture? Part 2. *The NAVY – Journal of the Navy League of Australia*, 2021. Vol. 83, No. 1: p. pp. 20-26, and Book Review (Mission Economy).

STATEMENT OF POLICY

For the maintenance of the Maritime wellbeing of the nation.

The Navy League is intent upon keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and capable maritime industry are elements of our national wellbeing and vital to the freedom of Australia. The League seeks to promote Defence self-reliance by actively supporting defence manufacturing, research, cyberspace, shipping, transport and other relevant industries.

Through geographical necessity Australia's prosperity, strength, and safety depend to a great extent upon the security of the surrounding seas and island areas, and on unrestricted seaborne trade.

The strategic background to Australia's security is changing and in many respects has become much less certain following increasing tensions, particularly in East Asia involving major powers, and in Europe and the Middle East. The League believes that Australia should rapidly increase the capability to defend itself, paying particular attention to maritime defence.

The Navy League:

- Believes Australia can be defended against attack by other than a major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication with our allies.
- Supports a continuing strong alliance with the US.
- Supports close relationships with all nations in our general area particularly New Zealand, PNG and the South Pacific island States.
- Advocates the acquisition of the most capable modern armaments, surveillance systems and sensors to ensure technological advantage over forces in our general area.
- Advocates a strong deterrent element in the ADF enabling powerful retaliation at significant distances from our shores.
- Believes the ADF must be capable of protecting commercial shipping both within Australian waters and beyond, in conjunction with allies.
- Endorses the development of the capability for the patrol and surveillance of all of Australia's ocean areas, its island territories and the Southern Ocean.
- Advocates Government initiatives for rebuilding an Australian commercial fleet capable of supporting the ADF and the carriage of essential cargoes to and from Australia in times of conflict.
- Notes the Government intention to increase maritime preparedness and gradually increase defence expenditure to 2% of GDP, while recommending that this target should be increased to 3%.
- Urges the strength and capabilities of the Army (including particularly the Army Reserve) and Air Force be enhanced, and the weaponry, intelligence, surveillance, reconnaissance, cyberspace and electronic capabilities of the ADF be increased, including an expansion in its UAV capability.
- Considers that the level of both the offensive and defensive capabilities of the RAN should be strengthened, in particular with a further increase in the number of new proposed replacement frigates and offshore patrol vessels, noting the need to ensure essential fuel and other supplies, and the many other essential maritime tasks.
- Recommends bringing forward the start date of the replacement frigate program to both strengthen the RAN and mitigate the local industry capability gap.
- Recommends the timely replacement and increase in numbers of the current mine-countermeasure force.
- Strongly supports the early acquisition of large, long range and endurance, fast submarines and notes the deterrent value, reliability and huge operational advantages of nuclear powered submarines and their value in training anti-submarine forces.
- The League is concerned at the very long time before the projected 12 new conventional submarines can enter operational service, noting very serious tensions in the NW Pacific involving major maritime powers.
- Recommends very early action to provide a submarine base on the Eastern seaboard.
- Notes the potential combat effectiveness and flexibility of the STOVL version of the Joint Strike Fighter (F35 *Lightning II*) and supports further examination of its application within the ADF.
- Supports the development of Australia's defence industry, including strong research and design organisations capable of the construction and maintenance of all warships, submarines and support vessels in the Navy's order of battle, and welcomes the Government decision to provide a stable and continuous shipbuilding program.
- Advocates the retention in maintained reserve of operationally capable ships that are required to be paid off for resource or other economic reasons.
- Supports a strong and identifiable Naval Reserve and Australian Navy Cadets organisation.
- Advocates urgent Government research and action to remedy the reported serious naval recruiting and retention problem.

As to the RAN, the League, while noting vital national peacetime tasks conducted by Navy, including border protection, flag showing/diplomacy, disaster relief, maritime rescue, hydrography and aid to the civil power:

- Supports the maintenance of a Navy capable of effective action in hostilities and advocates a build-up of the fleet and its afloat support elements to ensure that, in conjunction with the RAAF, this can be sustained against any force which could be deployed in our area of strategic interest.

The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in Australia's defence capability including the required industrial infrastructure.
- Believes that, given leadership by successive governments, Australia can defend itself in the longer term, within acceptable financial, economic and manpower parameters.

PARLIAMENTARY STANDING COMMITTEE – FOREIGN AFFAIRS, DEFENCE AND TRADE

Many of you will be aware of the range of standing committees that the Australian Parliamentary system relies on to inform it on a variety of issues. These committees provide an opportunity for organisations and individuals to engage in government policy and decision-making processes. The Navy League has taken this opportunity from time to time as issues arise which we view to be of importance to us and our maritime nation.

Our recent contribution to the Senate Standing Committee on Foreign Affairs, Defence and Trade argued the benefits of developing a hospital ship for naval amphibious task and battle forces, with a secondary function to assist in disaster and humanitarian care during peacetime. The Committee was inquiring into opportunities for advancing Australia's strategic interests through existing regional architecture.

The League submits that the current security dialogue architecture for Australia's engagement with the South West Pacific is adequate, but needs a physical symbol to act as a foundation and reminder of the commitment Australia has to the region. Our submission concentrates on the South West Pacific region, the strategic value of which is a key vulnerability to Australia's links with the United States of America. Our region's stability and security is vital to Australia and its ability to promote democracy, the rule of law, and maintain our values and the fruits of our centuries old labour. We submit that the recent initiative to reinvigorate the Pacific Patrol Boat programme, and the announcement of a Pacific Support Vessel, is a great testament to our belief in the value of the relationship with the South West Pacific nations, and guarantees our seat at the security dialogue table.

However, we argue that Australia should be looking to a similar capability employed by the U.S. Government in the US Navy ships MERCY and COMFORT, which fulfil a comparable role as being sought by the Pacific Support Vessel. Such a capability could allow Australia to provide support to the region's health security through ship visits as well as the provision of medical care and support. This could assist in the advancement of our strategic goals and engagement in our region through a Pacific Support Vessel. The primary mission of the vessel, would be as a hospital ship for naval amphibious task forces and battle forces afloat. Its secondary mission, would be to provide mobile surgical hospital service for use by appropriate agencies in disaster or humanitarian relief or limited humanitarian care incident to these missions or peacetime military operations.

Our full paper, driven by the Navy League's Federal Vice President Mark Schweikert, can be viewed at the following web address, along with all of the contributions.

aph.gov.au/sitecore/content/Home/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/RegionalArchitecture/Submissions

There are a broad range of contributors to the debate, including papers from government departments, the Northern Territory government, ANSTO, interested groups and an individual contributor. You may be interested to read more and can do so by simply downloading each paper.



A CHOULES (L100) replacement is the NLA's preferred vessel of choice in order to bring forward the Joint Support Vessel (as something bigger and substantially more capable than MV Sycamore). Possibly civilian crewed and RAN Mastered, akin to the UK Royal Fleet Auxiliary.



USNS Comfort (T-AH-20) Mercy-class hospital ship of the United States Navy.

THE AGM OF THE NAVY LEAGUE OF AUSTRALIA

The Navy League of Australia AGM and Federal Council meeting is on again in October.

Annual General Meetings of the Navy League have tended to be held in Canberra with the occasional meeting being held elsewhere from time to time as the opportunity arises. This has allowed for dialogue between Federal Council and the Navy and the opportunity for briefings on current issues, future plans and issues that the League sees important to address. All Divisions are generally represented as well as regular representation from the League in New Zealand. Important matters are addressed including the opportunity for members to mix socially, talk at length over issues affecting the League and the nation and, when the opportunity presents, enjoy the local hospitality.

Details of this year's meeting are contained in the notice in this edition. Like last year we will conduct the meeting online and look forward to even more members being able to participate in our proceedings. Most of us have had to get used to this new format of meeting and for those who are yet to we hope you will find it easy enough to adapt. The AGM is a great opportunity to further explore the important issues which are canvassed in this *The NAVY: The Magazine of the Navy League of Australia*, to address emerging naval matters and mix with like-minded members. I encourage all members to participate in the AGM, and hope many of you are able to join us.

IN THIS ISSUE

In this issue we have more excellent reading for you. This includes an article from Senator Jim Molan AO DSC and Mark Schweikert, who write for us on Australian maritime wargaming, tomorrow. In an article by Dylan Collaery we explore some of the legal and strategic implications regarding China and the South China Sea. Dr Neil Baird reflects the emerging view on how best to manage the transition to the *Attack-class* future submarine, which will no doubt provoke your thinking on this pivotal issue. We're also pleased to have an article written by Geoff Hawkins on the shape of the future Navy. Geoff's powerful article is a passionate, detailed and first-person account. It challenges the Arafura design, looks at the Hunter-class and other weapons issues for Navy.

I trust you will enjoy reading all of the articles in this edition and look forward to any feedback you have for us.

Happy reading. ■



NOTICE IS HEREBY GIVEN THAT THE

ANNUAL GENERAL MEETING OF THE NAVY LEAGUE OF AUSTRALIA



will be held online by video conferencing on **Friday 22 October, 2021 at 8.00pm AEDT.**

To receive video conferencing details please register your attendance (and your email address) by email to editorthenavy@hotmail.com by COB Tuesday 19 October and the details will be emailed to you prior to the meeting.

BUSINESS

- 1 To confirm the Minutes of the Annual General Meeting held in Canberra on Friday 23 October 2020
- 2 To receive the report of the Federal Council
- 3 To receive the financial statements of the year ended 30 June 2021
- 4 To elect Office Bearers for the 2021-2022 years as follows:
 - Federal President
 - Federal Senior Vice-President
 - Additional Federal Vice-Presidents (2)
 - Honorary Federal Secretary

Nominations for these positions are to be lodged with the Honorary Secretary, Queensland Division prior to the commencement of the meeting.

5 GENERAL BUSINESS:-

- To deal with any matter notified in writing to the Honorary Secretary Queensland Division, PO Box 620 Morningside QLD 4170 by 15 October 2021

ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council

Matthew Rowe
President

WARGAMING TOMORROW: IT'S POSSIBLE THIS WON'T END WELL

By Senator Jim Molan, AO DSC & Mark Schweikert

The biggest strategic challenge for Australia is not the Biden administration's post-Afghanistan intent and 'competence' – it is the state of the US military and the regional threat, the later principally exercised through maritime forces. While Intent, or strategic goals, can change overnight. Serious military capability takes years even decades to develop and perfect. Given China's rapid naval development, not much in the short to medium term can be done to counter-balance its naval advantage in its littoral zone, and increasingly out to the first and second island chain.

INTRODUCTION

Regardless of whether a US administration intends to come to the aid of its allies or help Taiwan, Japan or South Korea, the US now may not have sufficient military strength to be confident of winning. What would it matter how strong China was if the US and its allies were still able to deter China's aggression or defeat China if deterrence fails? There is now serious doubt among US leadership, and some allies, that the US can do either.

China has one strategic aim: to be dominant, first in the region and then perhaps in the world. A high degree of consensus exists on this even on Capitol Hill. Being dominant is critical to the Chinese Communist Party (CCP). This is a zero-sum game. China must reduce US military power and influence to increase its own.

To achieve this, China has been building a world-standard military and, in areas in which China chooses to fight, it dominates the US in numbers and in accurate rocketry capable of reaching US bases in Japan and the Pacific. Some call this the Taiwan scenario without understanding specifics, but Australians must understand that the US and its allies might not win. US power is not infinite.

RECOGNISE THE THREAT

Australia is a nation that lacks the necessary self-reliance and resilience for state-on-state conflict because it has depended for so long on 'the tyranny of distance', the US Alliance and has overindulged in globalisation, as the pandemic reminds us.

These circumstances have led us to develop a very good, small but fragile one-shot military lacking lethality (cannot fight nasty enough), sustainability (it cannot fight for long enough) and mass (it is not big enough). Case in point, Anzac class frigates with only an 8-cell VLS (Vertical Launch System) and Destroyers (frigates in Spanish Navy service) with only 48 cells and one Phalanx close in weapon system for 'leakers'. One mild swarm attack and it's all over. And why would anyone think the enemy would do no less?

Ironically though, our defence force is the best it has been for the kind of wars of choice it has fought for 75 years, while at the same time being severely deficient for the future. Australia is large enough and rich enough to defend itself in these frightening times; we just choose not to, instead we have a force that can only participate in the live fire serial of the next major scripted exercise. The first step is to recognise the nature and magnitude of the threat and hope that that can be a driver for change.

The Coalition has done more for national security and defence than any previous government. One needs only look at Navy. The Canberra class LHDs and Hobart class destroyers were acquired under coalition governments. The shipbuilding 'valley of death' was a Labor creation, particularly with the continual deferment of project SEA 1654 to build replenishment ships in Melbourne, and the decision by the Rudd Government to not purchase a fourth Hobart class destroyer (the contract for the fourth had already been drawn up by Defence and ready to sign).



The USN currently has three Carrier Battle Groups (CBGs) at sea around the world. Seen here is the USS CARL VINSON in the South China Sea in Sept. Her patrol included the first deployment of the F-35C JSF and the CMV-22 Carrier Onboard Delivery (COD) Osprey. (USN)



A PLA-N Type 93B Shang class nuclear powered attack submarine (SSN). China has six of these 6,000 tonne boats which can range out well beyond the first and second island chain in to the Pacific and Indian Oceans. Reports on its quietness range from an Improved US Los Angeles class SSN to a 1970's Soviet Victor III.

Ten years is a long time in the Indo-Pacific for the coalition's \$270bn remediation plan to work. Our new missile production project is across 20 years, the submarines and new frigates are even longer, and after 10 years, the ADF still may be able to last only weeks or days in a modern war dominated by an attritionist strategy China, even side-by-side with US forces. In 10 years, Navy will be marginally more lethal, marginally more sustainable, but no bigger. And Defence will be backed by a deeply vulnerable nation lacking resilience and self-reliance. This is an existential failure for Australia.

To assess Australia's defence adequacy to meet the coming storm, it is necessary to state clearly the nature of the threat, to judge what Australia can do and what remediation is required. Generalities are of no value. We know about pandemics, global financial crises and economic management. What we know nothing about is fighting modern state on state wars with allies against regional nuclear superpowers such as China.

The government's role becomes crucial, and it is only prudent to prepare for all contingencies so risk and priorities are understood. Even highly informed Australians think we must have somehow reached military perfection by now given the money we have spent. But the questions must still be asked: Will China come for Australia with hundreds of ships and millions of soldiers? Can the US help us? Can we do anything to improve our position?

THE US IS THE TARGET

The authors do not believe massive Chinese forces will or could invade Australia in the first instance. One merely needs to look at the effort required to invade Nazi occupied France, or our non-combatant amphibious efforts in East Timor, to see that China is incapable of that. For a start, both operations were inside a friendly air umbrella and had uninterrupted sea and air logistics supply lines. So, despite threats from China that bombers and missiles could be targeted on Australia, we are not the main target, just the handy kicking boy now.

The US and its influence is the target, particularly the US Navy (Japan had a similar appraisal pre-Pearl Harbor). The CCP objective is to reduce US power, prestige and influence, and Taiwan should be seen as the means. Taiwan is a very nice-to-have for the nationalistic CCP, particularly for domestic consumption, but any diversion from a focus on US power would be a strategic error on China's part.

Despite Taiwan's military being somewhat formidable, how long it could hold out against China is somewhat irrelevant. Taiwan may be used by China to entice the USN to enter an area of great vulnerability. China's aim then would be to cause the US such heavy casualties that it has to withdraw from the western Pacific. Alternatively, China may so deter the US that it does not even come to the aid of Taiwan with military force in the first instance. Defeat or reluctance to engage by the US are most serious concerns for Australia.

China's employment of so-called aircraft carrier killing DF-21 and DF-26 anti-ship ballistic missiles (ASBM) is seen as her main counter to US Carrier Battle Groups (CBGs) coming to the aid of Taiwan. This is why the US Navy has spent a considerable amount of money and time on its anti-ballistic missile defence capability, and why Australia should too.

Originally seen as a way of protecting amphibious forces ashore from SCUD like threats in the first Gulf War, and later North Korean Taepodong-2 ballistic missiles attacking US Pacific Island bases, the capability is also effective against DF-21/26 ASBMs. In fact, while a ballistic missile in flight is a challenging target, being its target actually provides an advantage as it is more predictable when and where the missile is going to be. Much like a slip fielder in a game of cricket. If the ball is coming to him, it's easier to intercept than if it's headed slightly away or off to one side. The fielder has more time to think, prepare, position and then intercept.

A conflict over Taiwan could occur within three to five years. Despite the Biden administration's tough talk, there is no indication that an increase in US military power is about to occur in the next few years. Even the USN's new Constellation class frigates, designed to replace the failed Littoral Combat Ship concept, won't produce the first ship until 2027.

The outgoing commander of the US Indo-Pacific Command, Admiral Philip Davidson, told congress in March he thought war might occur over Taiwan within 10 years, but more likely in six years. He advocated hardening and defending the US base in Guam, assuming Guam would be a target of China's rockets and missiles. If Guam is, so are Japan and Korean bases, possibly even Darwin.



Two DF-21 ASBMs in firing position. China has quite a number of ballistic missiles and many variants. Australia needs to invest in anti-ballistic missile defence to negate the potential threat from these weapons, both on land and sea.

The equation for US involvement in a Taiwan scenario has become very complex. Failing to intervene will hurt US prestige on a scale like Britain's failed bid to regain control of the Suez Canal in 1956. Ray Dalio, of hedge fund Bridgewater Associates, considers that crisis accelerated the disintegration of the British Empire and signalled the pound's decline as a reserve currency in favour of the dollar.

In September last year Dalio wrote:

"The more of a show the US makes of defending Taiwan the greater the humiliation of a lost war. That is concerning because the United States has been making quite a show of defending Taiwan while destiny appears to be bringing that closer to a reality."

Australians should be deeply concerned as to what China might do once it has forced the US to withdraw from the western Pacific, by force or deterrence. The entire region might go pro-CCP by recognising the reality of CCP power. Australia may even have to 'go it alone' like Britain did when the European continent fell to the Nazi's.

This is the existential threat to Australia and the freedoms that we know. All Australians must know and never forget how the 14 conditions/grievances delivered to Australia by China would change this nation forever. Some of those 14 included:

- Banning Huawei from the roll-out of 5G over "unfounded" national security concerns
- Foreign interference laws, "viewed as targeting China and in the absence of any evidence"
- Calls for an inquiry into the origins of the coronavirus – "siding with the US' anti-China campaign"
- Speaking out on the South China Sea
- Speaking out on human rights allegations in Xinjiang, accusing the government of "peddling lies"
- "Thinly veiled" allegations against China on cyber-attacks which Beijing says lacks evidence
- New foreign relations laws which give the federal government power to veto state, or local government agreements with foreign governments (e.g., Victoria's sign up to "Belt and Road") and,
- Allowing the Australia Strategic Policy Institute (ASPI) to research and publish articles on the Chinese military

Disappointingly, a recent community survey found that Australian's are blissfully ignorant of security issues and have left their entire trust and faith in the ADF to defend Australia and its interests, and win.

SUDDEN ATTACK OPTION

But why would China deploy its forces in an eye-pleasing manner around Taiwan and in its close mainland bases, then start its fight with Taiwan without first reducing US forces that are the main threat to China?

During the 20th century, China welcomed the US Navy in the region as it provided a stabilising security effect. However, now the reduction and/or elimination of US power in the western Pacific is China's main aim, and once that is achieved, the renegade province of Taiwan is China's.



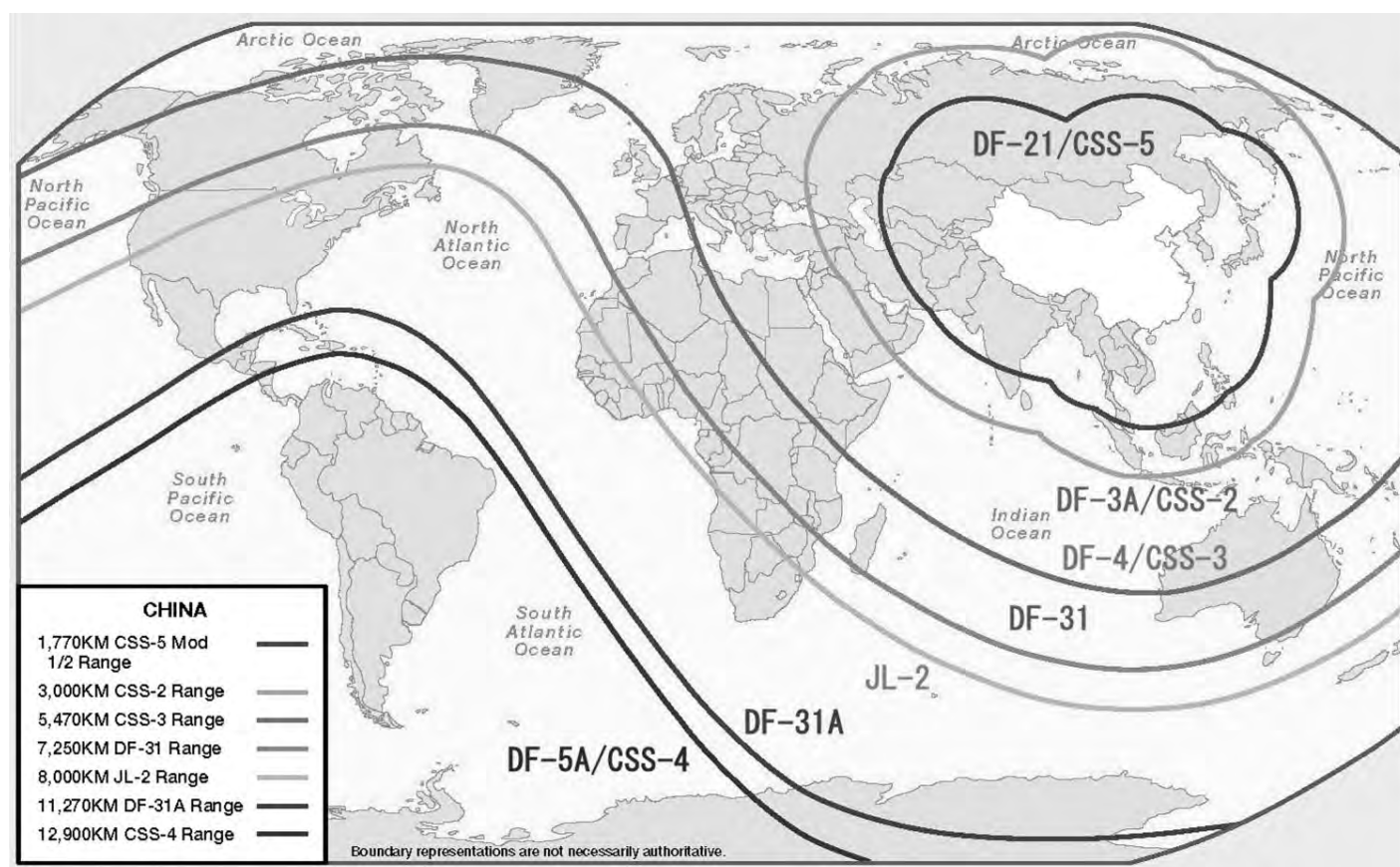
A PLA-N 3,600 tonne Yuan class diesel electric attack submarine (SSK). This is China's newest SSK which is fitted with long range anti-ship missiles and air independent propulsion. There are currently 20 of these in the water with another five building.

A Taiwan-first approach plays stupidly to US strength, and we cannot count on China being stupid. Taiwan is a nice-to-have for nationalistic CCP reasons, but it is not more important than forcing the US out of the western Pacific. The CCP would see this clearly. Many empires that no longer exist assumed their enemies were stupid.

The current US way of war is to station trip-wire forces in countries that may need US help from an aggressive neighbour, sometimes going so far as to deploy 'speed hump' forces to slow down an aggressor. If aggression then occurs, the US would immediately deploy other ready forces to help, but that takes a much longer period to marshal overwhelming force to win. We have seen this in world wars, the Cold War, in Korea, Poland and the Baltic States, as well as in two Gulf wars. This will not work against China in a modern war in the China seas as they will exploit the temporal advantage to the max.

To understand the limits of US power, take just one day in June this year. Of the 11 USN carrier strike groups, on that day three were deployed, one each in the Pacific, Atlantic and the Gulf. Of the nine amphibious ready groups, four were deployed, two in the Pacific, one each in the Atlantic and the Gulf. The other carrier and amphibious groups were in various states of readiness and maintenance in Japan or on the east and west coast of the US. A far cry from Ronald Reagan's 600 ship navy which brought the Soviets to the negotiating table.

To assemble US forces takes time. In the first Gulf War it took six months to assemble US and allied military power against a second-rate dictator. In that war the US had pre-built, massive, secure air bases in the desert, alliances and operated inside the world's largest petrol station. In a Taiwan scenario, China is a nut much harder to crack.



A chart of Chinese Ballistic missile ranges.

WARGAMING THE FUTURE

Word has leaked from US classified war games involving the Taiwan scenario that US operational concepts are not providing any confidence to US commanders that the US can prevail. In crude terms, on each occasion the US “has been handed its arse”. The US is working on revising its plans because of those war games, but the problems may be far more complex and frightening than that. Confronted with its own weakness, is this the time the US considers the use of tactical nuclear weapons?

The relevance of this situation is dark enough for the US, but it is even darker for Australia with its paucity of force in its exercise focused one-shot military, enormous vulnerabilities within the nation, and weakness in its once great and powerful ally.

If a major power such as China intends to go to war to achieve its aim of dominance, and if it intends to initiate hostilities at a time of its own choosing and essentially in its backyard, it has an overwhelming advantage and several operational choices.

China's first choice is an incremental model used by Germany before 1939, where diplomacy and coercion took advantage of European naivety and war weariness, and violent armed force was not used until necessary.

Gambling on the weakness of any opposition, China worked this technique to the limit in the South China Sea, pushing its controlled areas another 1,000km out from its coast. As well, China can now control all shipping through this area when it needs to. In this incremental model, if China hits more opposition than expected, it can back off or, if it is sufficiently prepared and wishes to do so, it could move to the full use of armed force. The question is, is the west politically strong enough to force China's hand?

The second choice is the decisive attack, similar to that used by Japan in attacking Pearl Harbor in Hawaii, a surprise attack out of a clear sky to instil strategic shock. This was a devastating blow from which it was hoped the US was not able to recover until Japan had consolidated and fortified its gains as far south as the Netherlands East Indies. Pearl Harbor was not the objective, the Dutch oilfields were.

Such action is high risk but high reward, and militarily logical. It would involve sudden soft and hard measures such as cyber-attacks against the US and its allies' infrastructure across the world, and against all US space observation and communications assets (such as undersea cables, of which 99.4% of the world's communications are conveyed), blinding or denying them.

Simultaneously, China would strike US and allied bases in the region, mainly in Japan and South Korea but also in Guam and possibly beyond to Australia, with special forces, submarines and rocket and cruise missile attacks using conventional warheads or even small tactical nuclear warheads.

Once local US air and sea power in the western Pacific had been removed, any remaining forces in the wider Pacific would be required to fight their way back in if they thought they were strong enough, starting several thousand kilometres farther from the Chinese coast. Much like the US and allies had to do post Pearl Harbor, for which Australia was a vital anchor point.

This would give an even greater advantage to China's longer-range and more prolific naval and air weapons, especially with the location of these weapons on the land edges of every strait in the region. China essentially would be in control of the first and much of the second island chain, and could begin to reduce Taiwan's military and occupy the island almost at leisure, secure any wider gains



The latest Taiwanese Navy wave piercing catamaran corvette, dubbed the carrier killer, the ROCN TA CHIANG. Carrying up to 16 locally made anti-ship missiles and with a top speed of over 43kts the class of 12 will make Taiwan that little bit more difficult to topple.

and then decide its next moves in the region towards recalcitrant countries such as Australia. If Taiwan saw the writing on the wall, perhaps it might roll over.

The sudden attack option could be seen as an alternative to the incremental model or as a logical development from a weak US and allied response to a no-fly, no-sail challenge by China against Taiwan. Looking at what all this would mean for Australia, it would be prudent for the government to focus on the worst case, whether considered the likeliest or not. From the authors' view, from a military point of view, the sudden, decisive attack is the most attractive.

PREPARE TO GO IT ALONE

But what does this mean for Australia? It is likely that Australia will never deter a war between China and the US. We are not yet a big enough player. Australia might deter a direct attack on Australia by China from within such a US-China war by being able to reduce our vulnerability to such an attack.

For example, as a priority, Australia might invest in ballistic missile defence for both sea and land assets; up arm the Arafura class offshore patrol vessels in a continuous build; invest in more Jindalee Over the Horizon Radar (JORN) facilities; undersea sonar warning nets; more mine countermeasures capability; more investment in anti-submarine warfare measures, and resilience to economic attack through the production of liquid fuel domestically and a reserve of fuels, ammunition, missiles and spare parts for the military and our energy sector.

But what Australia must now prepare for is the distinct possibility that the US might be forced out of our region for a very long time, allowing China a free hand. Is our nation's resilience and



A Lockheed Martin AGM-158C LRASM (Long Range Anti-Ship Missile) about to hit a target vessel. The LRASM is the most advanced and stealthy anti-ship missile in the west. It is made with counter-countermeasures to evade hostile active defence systems and reported to have a range of over 350kms. The RAAF recently purchased these for its Super Hornets. The Australian government is in talks with the US to build the missile here to provide a sovereign ammunition supply of this lethal missile.

self-reliance enough for this, or our defence force lethal enough, able to fight for long enough, and big enough to defend against Chinese coercion or subsequent aggression while the US recovers? And what is our strategy to make the nation and the defence force resilient and powerful? Finally, how much time do we have?

The first step is to recognise the appalling threat. ■



THE LEGALITY TO CHINA'S CLAIMS IN THE SPRATLY ISLANDS

By Dylan Collaery

China's actions in the South China Sea threaten the principle of freedom of navigation, the sovereignty of other states and the credibility of the Law of the Sea Convention (LOSC) itself. The Chinese occupy several features within the Spratly Islands and claim that these areas are Chinese territory which generate maritime zones. This paper will analyse and dissect these claims, concluding that the Chinese illegally occupy these features and are not entitled to any maritime zones.

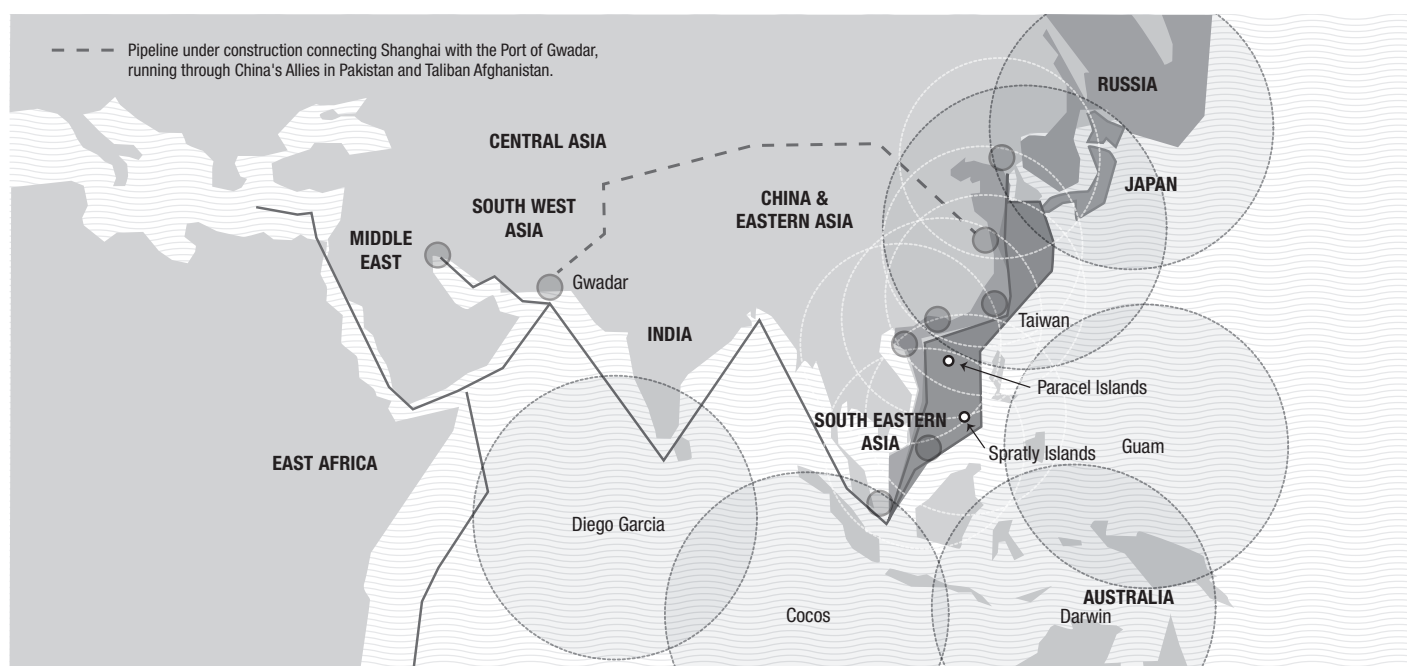
INTRODUCTION

This paper will not explore the political identity of the Chinese Communist Party (CCP), nor make argument related to domestic Chinese policy. It is, however, important to note that the perceived "century of humiliation" by European and Asian powers has had a profound effect on Chinese identity. [1] The CCP have built their platform based on the humiliation that their country historically faced by foreign nationals. [2] The detrimental impact of China being occupied and divided by foreign powers was so severe to the Chinese national identity that they were forced under Chairman Mao to attempt to save face (an important aspect of Chinese culture related to dignity) above all else, leading to tragic events such as the Great-Leap-Forward where millions of their countrymen perished at the hands of their leaders.[3] This offers a baseline level of understanding to their actions not just with regards to the law of the sea, but in many of their dealings with foreign powers who they perceive have wronged them in the past.

BACKGROUND OF THE DISPUTE

The South China Sea is a hotly disputed area of over 1 million square nautical miles between China, Malaysia, Vietnam, Brunei, the Philippines and Taiwan. Each state has overlapping territorial claims with the majority of the others, with the primary points of contention being the Paracel islands and the Spratly islands. The main point of conflict and focus of this essay is China's "9 dash line" claim which encompasses the EEZ of Brunei, Indonesia, Malaysia, the Philippines, Taiwan and Vietnam. [4] This claim fundamentally covers the entirety of the sea.

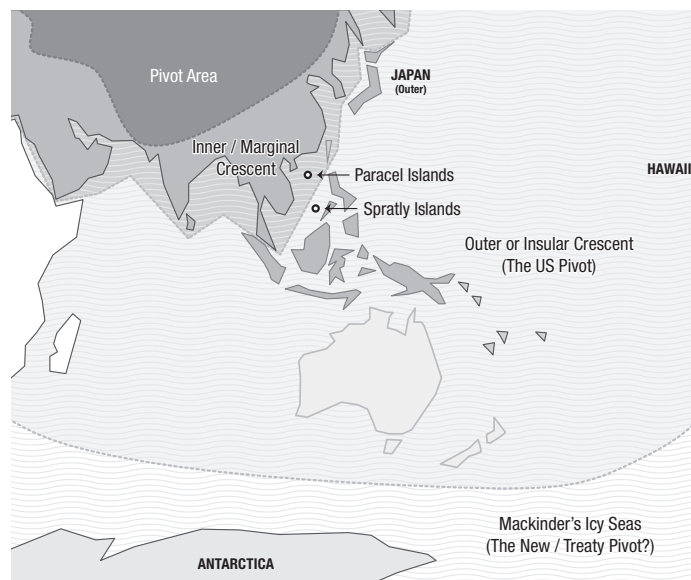
The South China Sea itself is of significant strategic importance to China, the other parties of the dispute and external states such as the USA and Australia. [5] It is estimated that over US\$5 trillion of trade passes through the South China Sea each year.[6]



The near Sea Line of Communication (SLOC) forms China's 1st Island Chain, essentially a defensive network based upon the South China Sea and which forms the 'Bailey'. The 1st Island Chain includes Shanghai, Hong Kong, Hainan; incorporating Taiwan, and China's northern claims in the South China Sea. The 2nd Island Chain acts as an 'Extended Deterrence Network (XDN)' – acting as the Motte or bank of sand islands being called the 'Great Sand Wall'. The XDN extends to North Korea; incorporating claims on South Korea, Japan, the Philippines, Malaysia, Vietnam and the southern South China Seas, round to Singapore and the Straits of Malacca. Singapore and Tokyo are incorporated within China's 'Extended Pearls'. The 'Keep' is represented by mainland China; incorporating Taiwan. Blake (2016). Flash Traffic: "The Chinese Motte; Keep; Bailey; Great Sand Wall – Dragon's Point Strategy". *The NAVY Magazine of the Navy League of Australia*, Vol. 78 No.1, Jan-Mar.

CHINESE CLAIMS, ARTIFICIAL ISLANDS AND THE LOSC

LOSC allows States to claim a territorial sea up to 12 nm from the baseline. [7] This territorial sea is the sovereign territory of the coastal state and the state has sovereignty over the air, on the sea, over the seabed and the subsoil.[8] China began building artificial islands over the Guarteron, Fiery Cross, Gaven, Hughes, Johnson South, Mischief and Subi reefs in the Spratly Island chain, as well as other features of the greater South China Sea in 2013 and as of 2016 have continuously fortified these artificial islands with radars, missiles and runways which can support strategic nuclear bombers. [9] The fervour and actions of the Chinese this past decade in the South China Sea are undoubtedly an extension of the aftermath of the century of humiliation. China claims that these artificial islands generate a territorial sea, EEZ and most importantly – the sovereignty and jurisdiction that comes with these. From a legal perspective, these manmade features must be legally classified in order to assess the legality of Chinese claims. LOSC uses a large number of terms to refer to manmade objects at sea, including “artificial islands” “installations” and “structures”, LOSC does not provide a definition for any of these terms, nor is there any agreed-upon definition in common use. [10] LOSC does, however, provide a definition for the word “island” under Article 121(1) – “a naturally formed area of land, surrounded by water, that is above water at high tide.” [11] Deconstructing this definition, four conditions must be met in order to classify an area of land as an island. Firstly, it must be naturally formed. Secondly,



Mackinder's Panglossian Heartland Theory Applied to the Pacific and Indian Oceans, see Wesley, M. (2016). Asia's Restless Giants: The Challenges to Asia's Maritime Commons. *The NAVY – Magazine of the Navy League of Australia*, Vol. 78, No. 2, Apr-Jun 2016, pp. 6-10.

it must be an area of land. Third, it must be surrounded by water and fourth, it must be above water at high tide. If the common definition of the word “artificial” – “Made by humans, often as a copy of something natural” [12] – is applied, it is reasonable to define an artificial island as “an area of land surrounded by water that is above water at high tide that is not naturally formed.” Both



USS GABRIELLE GIFFORDS (LCS 10) patrolling Oil Rigs in the South China Sea in Support of Malaysia.

common definitions of “structure” – “something that has been made or built from parts, especially a large building” [13] – and “installation” – “a system or piece of equipment that has been put somewhere” [14] – in context imply buildings, whereas “artificial island” implies a man-made area of land. The “land reclamation” projects throughout the Spratly islands all consist of dredging large amounts of sand and rock from the seabed and depositing it on top of reefs. The definitions previously discussed would logically qualify as “artificial islands” for the purpose of interpretation of the LOSC. LOSC Article 60(8) states “Artificial islands, installations and structures do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.” [15] Therefore, these features that China have built not only fail to generate a territorial sea but are outright incapable of generating the maritime zones that China claims. How about the legality of the features as they stood prior to the construction of artificial islands? Article 121(3) states that “Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.” [16] The owner of a rock is therefore entitled to a 12nm territorial sea around the rock and nothing beyond that. The key terms of “rock”, “human habitation” and “economic life” are not defined by the LOSC, nor other international instruments relevant to the law of the sea. [17] The significant impact on maritime zone capacity based on distinction between “rock” and “island”, however, has led to profound scholarly debate and wide interpretation. [18] The rocks at the reefs in which Chinese artificial islands are now situated were all no more than 2 metres in height and width and therefore incapable of supporting human life. [19] The ICJ in *Romania V Ukraine* (2009) affirmed Romania’s view regarding a feature which a Ukrainian lighthouse was situated on that “Small islands, irrespective of their legal characterisation, have frequently been given very reduced or no effect in the delimitation of the continental shelf, exclusive economic zone or other maritime zones due to the inequitable effect they would produce.” [20] Furthermore, the ICJ went on to favour the Romanian argument that “The presence of some individuals ... because they have to perform an official duty such as maintaining a lighthouse, does not amount to sustained ‘human habitation’.” [21] With this considered, while these



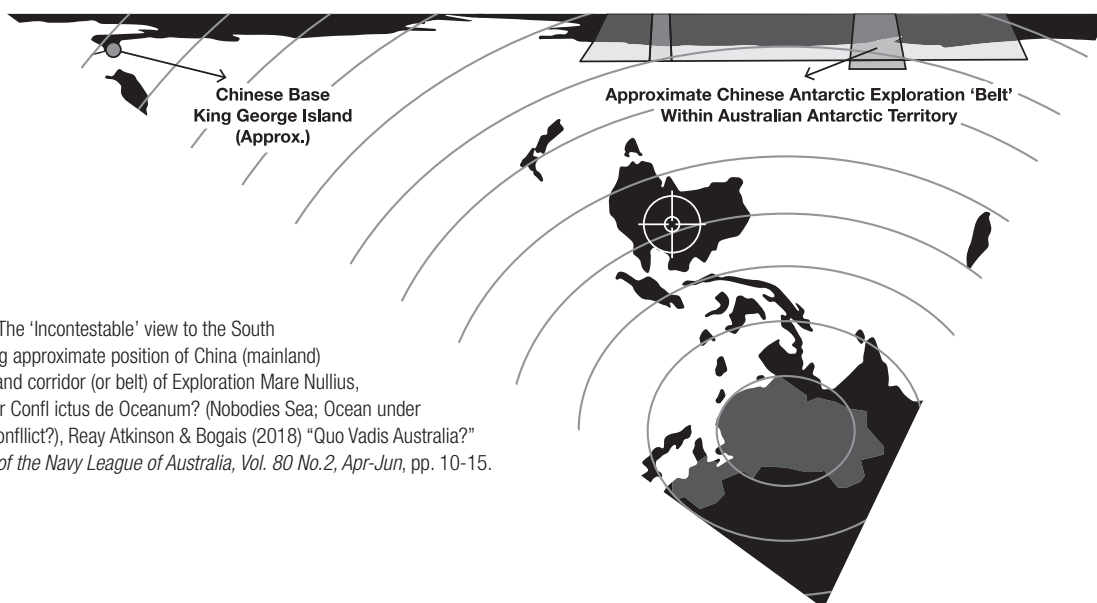
Near deliberate collision of PLAN Ship LANZHOU (DDG-170) with USS DECATUR (DDG-73) in South China Sea.

features are now capable of supporting life with the assistance of artificial islands, these islands are military installations housing Peoples Liberation Army servicemembers. These soldiers are, naturally, performing an official duty of the state and therefore according to the ruling by the ICJ would not be considered sustained human habitation. [22]

Article 13 of LOSC states that:

“A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea. Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.” [23]

The key difference between a low tide elevation (LTE) and an island is that low tide islands are submerged at high-tide. LTEs are able to generate baseline when they are within the breadth of the territorial sea of a state’s mainland or islands – not rocks. An LTE outside of this area does not extend the effective reach of a state’s territorial sea. As discussed, the features in the Spratly Islands are unable to be legally classified as islands under LOSC. Furthermore, these features are over seven hundred nautical miles south of the Chinese mainland, well outside of the 12 nautical



'In the Crosshairs' – The 'Incontestable' view to the South from China – Showing approximate position of China (mainland) and Antarctic Bases and corridor (or belt) of Exploration Mare Nullius, Oceanum Pax Iuris, or Confl ictus de Oceanum? (Nobodies Sea; Ocean under Treaty, or Ocean in Conflict?), Reay Atkinson & Bogais (2018) "Quo Vadis Australia?" *The NAVY Magazine of the Navy League of Australia*, Vol. 80 No.2, Apr-Jun, pp. 10-15.



Chinese Warship Diplomacy? PLAN Warships alongside in Sydney for the apparently surprise visit to commemorate the 30th anniversary of the Tianamen Massacre.

mile territorial sea generated by her coast or any other legitimate Chinese island. Article 7(4) does make a provision whereby straight baselines may be drawn to LTE with lighthouses permanently above sea level. [24] Lighthouses are present at every Chinese occupied feature in the South China Sea and, therefore, China can in theory draw straight baselines to and from the recognised LTEs.[25] Noting the significant distance to the Chinese mainland and recognised Chinese islands, however, this would likely be met with significant resistance from the international community and it almost certainly would not be recognised.

With the above definitions considered, the reefs Cuarteron, Fiery Cross and Johnson South are classified as rocks under Article 121(3) of LOSC due to rocks being present which “cannot sustain human habitation or economic life of their own”. [26] Gaven Reef North is defined as a rock by the Permanent Court of Arbitration (PCA). [27] These are therefore entitled to a 12 nm territorial sea. The reefs Hughes, Mischief and Subi are all defined as LTEs by the LOSC. [28] Finally, Gaven Reef South is defined as a LTE by the PCA. These LTEs are not entitled to any maritime zone.

PHILIPPINES V CHINA AND THE LEGALITY OF CHINESE OCCUPATION

In response to China’s artificial islands and claims, the Philippines sought arbitration from the PCA under Annex VII of the LOSC. It has been estimated that there are “over 600 reefs, islets, shoals and rocky protrusions” in the Spratly Islands, the majority of which are disputed. [29] The ICJ ruled that China’s “historic rights claim” over the nine-dash line are not legal and exceed what they are entitled to under LOSC. [30] Furthermore, China is not legally entitled to the resources within the nine-dash line. [31] LOSC does not allow a group of islands such as the Spratly Islands to generate maritime zones as a collective unit.[32] Finally, that China had violated its

obligation to refrain from aggravating or extending the parties disputes during the settlement process.[33]

How did the ICJ come to this conclusion? *Romania v Ukraine* offers a modern test for delimitation of the continental shelf. Firstly, disputes can be delimited based on equidistance or median line. [34] As previously mentioned, the Spratly Islands are over seven hundred nautical miles to the south of China, and one hundred miles to the west of the Philippines. A median line which encompasses the Spratly islands within China’s sovereignty would be inappropriate due to the vast distance. The second question that the court can examine are any relevant circumstances, such as historical ownership of the islands. [35] While the CCP insist that the Spratly Islands historically were controlled by the Chinese, in reality this is historical revisionism. Gayton notes:

“Contemporary accounts from the early twentieth century demonstrate that the Chinese state had great trouble controlling its own coast and was completely unable to project authority to islands hundreds of miles off-shore. For-example, the inability of the Chinese authorities to control piracy in the West River ... prompted moves by the British authorities to establish their own patrols in early 1908.” [36]

The fact of the matter is that the Chinese historically have not been able to police their own waters, let alone project power to the Spratly Islands. As such, the claim that they were historically controlled by China is incorrect.

The final question that the court can examine in regards to delimitation of the continental shelf is whether there is any marked disproportion between the ratio of the coastal length of the states in question and the ratio of the marine area that they are accorded to by law. [37] Due to the distance between China and the Philippines, this is not a relevant question.

The ICJ ruling therefore confirms that the Chinese occupation of the Spratly Islands is illegal and casts significant doubt over the historical narrative that the Chinese assert in order to support their claims. Furthermore, as the ICJ has said that the Chinese claim to the nine-dash line is illegal, that therefore means that any territorial sea generated by the rocks in the Spratly Islands cannot be Chinese as they would simply be *occupied* by the Chinese, not the *sovereign territory* of the Chinese. While the ICJ did not rule on any territorial questions specific to the Spratly Islands, this is the logical conclusion from their statement. Despite this ruling, it was outright rejected by the CCP, with the official newspaper of the CCP— People's Daily – stating “The Chinese government and the Chinese people firmly oppose [the ruling] and will neither acknowledge it nor accept it” and ironically for other countries to “obey international law.” [38]

China continues to occupy the disputed features in the Spratly Islands. This has prompted many states, including Australia, to conduct Freedom of Navigation Patrols (FONOPS) around the occupied features and – in the American's case – within 12 nautical miles in order to show the Chinese that the global community does not recognise their claims. [39] China, however, threatens foreign warships and aircraft that approach 12 nautical miles of the occupied features with threats of attack. [40] By staying outside of the 12 nautical mile limit, does this mean that Australia is *customarily* accepting the Chinese claim and territorial sea? Considering the threats that the Peoples Liberation Army make to any approaching warships, it can be argued that any perceived customary acceptance of the 12 nautical mile limit is made under duress and is therefore legally void. In the 17th and 18th centuries it was the case that a State's territorial sea extended as far as it could fire a cannon. [41] This antiquated custom is very outdated and therefore the Chinese cannot make a claim that they are entitled to a territorial sea based on their ability to “defend” the occupied features out to 12 nautical miles.

CONCLUSION

The evolution of the South China Sea dispute and the Chinese attitude to LOSC has been an effective test for the global community to determine whether the CCP will follow existing rules of international law or disregard them. [42] The CCP are illegally occupying several features throughout the Spratly Islands and have no intention to obey customary or treaty law which they themselves are party to. The disregard for international law and continued militarisation of the South China Sea will have major consequences for the global rules-based order as the risk of conflict increases each year due to the Chinese unwillingness to arbitrate. ■

About the Author: Dylan Collaery is currently serving in the RAN and studying for his Juris Doctor of Law at Flinders University. *The NAVY* is grateful to Dylan and Flinders University for their kind permission to publish this distinguished paper. It makes a significant contribution.



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- [15] LOSC (n7) art 60(8).
- [16] *Ibid* art 121(3).
- [17] Daniel Andreeff, 'Legal implications' (n10) 889
- [18] *Ibid*.
- [19] *Ibid* 891
- [20] *Maritime Delimitation in the Black Sea, Romania V Ukraine* (2009) ICJ 61, 66.
- [21] *Ibid* 63.
- [22] Tara Davenport, 'Island-Building' (n9).
- [23] LOSC (n7) Art 13
- [24] *Ibid* art 7(4).
- [25] Daniel Andreeff, 'Legal implications' (n10) 901
- [26] *Ibid* 898.
- [27] *Philippines v China* (2013 – 2016) PCA 2013-2019 p. 259 "Award".
- [28] Daniel Andreeff, 'Legal Implications' (n10) 898
- [29] "Memorial of the Philippines" of South China Sea Arbitration – *Philippines v China* (2013 – 2016) PCA 2013-19, Volume IV, at para. 2.12
- [30] *Philippines v China* (n27)
- [31] *Ibid*.
- [32] *Ibid*.
- [33] *Ibid*.
- [34] *Romania v Ukraine* (n20)
- [35] *Ibid*.
- [36] Bill Gayton (n5) 17.
- [37] *Romania v Ukraine* (n20)
- [38] *The People's Daily*, quoted in Tom Phillips, Oliver Holmes and Owen Bowcott, 'Beijing rejects tribunal's ruling in South China Sea case' 13 Jul 2016 <https://www.theguardian.com/world/2016/jul/12/philippines-wins-south-china-sea-case-against-china>.
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222: CHIEF OF NAVY'S FLEET INTENT

You will no doubt be aware of the announcements by the Prime Minister, which have major implications for Australia and Our Navy.

I appreciate these announcements are significant and like many across the nation you are quickly adjusting to what is a momentous security decision. In summary, the Prime Minister announced:

- **AUKUS.** An Enhanced Trilateral Security Partnership between Australia, the UK and US.
- Nuclear-powered submarines for AUS. Supported through AUKUS, the Government will determine a cooperative pathway to deliver a next-generation nuclear-powered submarine for Australia.
- Not proceeding with the *Attack-class* program. The Government has decided to not proceed with the *Attack-class* conventional submarine program.
- Enhanced Long-Range Strike Capability. The Government will invest in Tomahawk missiles for the Hobart class DDG and Joint Air-to-Surface Standoff Missiles (Extended Range) for the RAAF. Australia does not, and will not, seek to acquire nuclear weapons.
- Significantly deeper cooperation. Through AUKUS, Australia will more deeply cooperate across cyber security, artificial intelligence, quantum technologies, and additional undersea capabilities.

Of all the announcements, of course, acquiring nuclear-powered submarines will attract significant commentary and generate a large amount of energy. Upfront, there is significant work to 'determine the optimal pathway' for Australia, in close partnership with the UK and US. There has been a large body of whole-of-Government work done already, but there is much more to do. Australia and Our Navy have been cautiously admitted to an exceptionally special trilateral framework; it's important to understand from the beginning, that there are no pre-conceived solutions here, apart from Australia acquiring nuclear-powered submarines in partnership with the UK and US.

For the past 50 years, submarines have been an important component of Australia's deterrent and war-fighting capability, and there is no doubt in my mind that the *Attack-class* would have been the world's most capable conventional submarine. As you know, the deterioration in our strategic circumstances – that has accelerated rapidly since the 2016 Defence White Paper – demanded we urgently review our capability assumptions.

In parallel with the other elements to our undersea program, a nuclear-powered submarine capability will represent a paradigm shift in our nation's undersea warfare capability. As you are well aware, nuclear-powered submarines bring increased range, faster speeds, increased endurance, more weapons capacity and payload options. Without a requirement to snort, they are also unmatched for stealth.

At the very outset, while this technology does represent a step-change in capability, it is essential that we never lose sight of the fact that Our People are, and will remain, the key to fighting and winning at sea; and Our People remain my highest priority.

Second, while this announcement will bring some immediate change for some who are seconded to the Nuclear-Powered Submarine Task Force (NPSTF), and significant impact for those working within the Attack program, for the majority of Our Navy right now, we need to remain focused on our current head mark. As I articulated with my currently serving leaders, Our Navy has well and truly delivered on its commitment to our nation. However, we must continue to do so in the months and years ahead, while concurrently planning for, and delivering our future maritime systems—a common challenge I am sure you all dealt with in different ways in previous times.

Similarly, the challenge of adequate resources, at the right time and place remains. Notwithstanding the recent announcements, delivering the existing, highly complex shipbuilding and maritime domain programs is a significant undertaking (that I know some of you are actively contributing to – and deeply appreciate. Resourcing may require tough decisions, alternative options, or innovative solutions to deliver some of our programs. Undoubtedly workforce pressure across the broader Defence enterprise is substantial and many of you will be dealing with that in your post-serving commercial and industrial roles.

Our nation will need to carry out a significant body-of-work to ensure that we have a clear and workable pathway to transition from a conventional submarine capability to a nuclear-powered submarine capability. The NPSTF will use the next 18 months to determine the optimal path forward in deep consultation with the UK and US, and in parallel, we will develop Navy specific plans to address immediate issues and ensure we are positioned for success.

For some sectors of Navy, there will be new work to do in the future. As you can imagine, the engineering, regulatory, and policy settings that apply to stewardship of a nuclear-powered submarine capability are unique. We will need to grow many of these



HMS ASTUTE (SSN119) with Special Forces Chamber leaving HM Naval Base Gibraltar.

across Government. There are clearly issues and risks that we haven't yet thought of, and I intend to leverage the collective experience of the Navy SLT at our next offsite, to assist in developing our transition framework, while also identifying second and third order impacts and associated mitigations.

Right now, I seek your patience and support—particularly in providing guidance, assurance and measured comment within the community. Your voices are powerful—particularly in such a space.

The NPSTF will provide ongoing updates at the following website: Nuclear-Powered Submarine Task Force/About/Department of Defence.

This is an undoubtedly important time for Our Navy. Our People are key to this—serving and retired. I seek your support in any way you believe helpful and welcome your engagement.

I am absolutely confident that we will meet this new and exciting challenge together, as we always do.

Best wishes,

MJ Noonan, AO

Vice Admiral, Royal Australian Navy

Chief of Navy Australia

Sir,

there is a loyal Australian Admiral, Rear Admiral Andrew Robertson AO DSC RAN (2025-2020), who may be heard saying from on high:

Praise the Lord and pass the ammunition.

A re-read (by the NPSTF) of Andrew's *The NAVY* papers and the NLA's *Statement of Policy* (for 35 years sculpted by Admiral Robertson) would be a very good starting place.

Perhaps, secondly, you might consider calling the RAN nuclear submarines the *Admiral-class*. And naming one of the class: HMAS ROBERTSON?

Yours faithfully

Aeneas



CRITICAL MOMENT OF CHANGE

The Austrian-born Economist Friedrich von Hayek, a favourite of Mrs Margaret Thatcher, with Milton Friedman, espoused and developed three principles of what would become known as Thatcherism:

1. a belief that economic freedom and individual liberty are interdependent;
2. that personal responsibility and hard work are the only means to national prosperity;
3. and that free-market democracies must stand firm against aggression.

Mrs Thatcher did not in herself deny society, although she was widely quoted as saying so. What she was saying was that “we have responsibilities towards ourselves, our families and other people. (1.) It is other people we are connected with, not a mere abstract entity, who bear the responsibility and the cost of giving us help when we need it (2.)”.

Karl Popper also argued that societies do not exist but rather that such terms refer to theoretical concepts constructed to explain what actually exists and occurs, rather than to existence, itself. On war, he noted:

‘the war’ or ‘the army’ are abstract concepts, strange as this may sound to some. What is concrete is the many who are killed; or the men and women in uniform, etc.

von Hayek developed three essential underpinnings for a successful pollical sûreté economy:

- a. Successful [free] markets and societies operate within a trusted information gathering, discovery procedure;
- b. continuously creating instantaneous moments of price equilibrium, from disequilibria (he also referred to as disequilibria);
- c. within which markets and society might assuredly and peacefully exist.

Friedman, von Hayek, Popper and Mrs Thatcher would all be spinning in their graves as to how the Global West over the past 30 years has forgotten itself. In particular, “rule number 3”:

free-market democracies must stand firm against aggression.

WOLFPOLITIK

Communist Party of China (CPC) aggression has taken many forms in recent years, exacerbated and unmasked by COVID. It has included:

- An undervalued Yuan, which China has used to de-industrialise significant swathes of western industry. The Chinese currency comes in two forms: the Yuan (CNY) and the people's renminbi (RMB).

- While the renminbi is the official currency of China and acts as a medium of exchange, the yuan is the unit of account of the country's economic and financial system;
- The Yuan is used for currency arbitrage and price “fixing”.

- The co-option and sometimes coercive suborning of international bodies, such as the UN (consider the WHO); the IMF, World Bank, and the WTO;
- Fully joined up, Whole-of-CPC, Political Economic Warfare (PEW), *Wolfpolitik* strategies (first identified in *The NAVY* – including the term *Wolfpolitik*), comprising:

1. The New Silk Road, comprising an Economic Belt and Maritime Silk Road, also known as ‘the Belt & Road, or One Belt and One Road (一带一路), or OBOR Strategy’.

2. The String of Pearls (珍珠串) strategy, incorporating China's First (essentially the Nine-Dashed Line) and Second Island Chains (the Second Dashed Lines) and;

3. The Dragon's Spear (龙的) strategy, incorporating the Chinese Motte, Keep, Bailey, Mote (reclaimed islands), and Moat (the SCS and ECS).

The OBOR strategy is both terrestrial and maritime. It is a coercive strategy used to suborn client states through financial rent-seeking and socio-infotechnological reliance. Just ask Malaysia.

Because China is in many respects landlocked – with a semi-quiescent Russia to its north, generally suspicious neighbours to its south, and India to its West, it has few trusted Allies. China's tenuous “belt” linkages – through often hostile neighbourhoods, such as China's rebellious western Muslim-states (and Tibet); its fair-weather-allies in Pakistan; and Taliban Afghanistan – means the “roads” look a much safer option. Including south to Australia, and Australian Antarctic Territory (AAT) – the hidden South China Sea? Where China is constructing a proxy-para-military belt through the AAT – from the Southern Ocean to the Atlantic.

Russia remains highly sensitive to China's *populating-by-stealth* of Siberia. This has resulted in the Russian authorities:

- increasing regulations of Chinese traders in the wholesale markets, with growing tariffs and, reportedly, frequent visits by enforcement officials for minor infringements;



USS VIRGINIA (SSN774).

- connecting Russian Oligarchs with Chinese Princelings (usually Generals in the PLA, not always loyal to Xi) to monopolise the more profitable trade in Siberia's vast untapped natural resources;
- diversifying the region's inbound foreign investments – particularly towards Japan and South Korea (to supplant the Chinese influence).

UNINTENDED CONSEQUENCES

An unintended consequence of Western sanctions against Russia – since it was not part of a joined-up response – has been to create dire economic conditions in Russia; exacerbating depopulation; and shrinking the local consumer base – with little prospect for a sustained post COVID rebound in the future. As profits suffer; traders close up shop; and fewer newcomers come in. Other than sponsored by the oligarchs and princelings. Thereby further preventing “free markets and societies operating”.

At the same time that China is putting its people in space and developing “a world-standard military... [dominating] the US in numbers and in accurate rocketry, capable of reaching U.S. bases in Japan and the Pacific” (see paper 1) – China enjoys *Developing World Status* in the WTO. Under WTO rules, developing countries are given special provisions, which includes

longer time periods for implementing agreed commitments and measures to increase trading opportunities.

In other words, the Global West is doing PEW unto itself – by allowing China not only to manipulate its currency (to unfair destructive advantage), but “to set the conditions of trade” – turning Global-rules against the free-market democracies.

TRANS-PACIFIC PARTNERSHIP (TPP)

Taking ‘coincidental’ advantage of New Zealand (seen to be increasingly and worryingly aligning with China), on the announcement of AUKUS, the CPC immediately applied to join the TPP – comprising Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.

Correctly, Australia supported by Japan, Singapore and Vietnam, objected, demanding “China ends its campaign of economic trade coercion and reopen ministerial trade talks as a prerequisite”. The TPP, while supporting the application of the United Kingdom, may consider setting 7 conditions (to China’s 14 demands of Australia) for the CPC to join, that it:

1. Desist from coercive PEW, including the suborning of international organisations such as the UN;
2. Move to developed status within the WTO;
3. Adhere to and implement international laws and UNCLOS, within the International Rules-Based Global Order – “trust but verify” through the honest reporting of the origins of COVID 19;
4. Adopt a single currency, the yuan, and stop manipulating currency markets.
5. Open up to a free market of ideas, within an information gathering, discovery procedure;
6. create open opportunities for achieving price equilibrium;
7. enable markets and societies (like Hong Kong and Taiwan) to assuredly and peacefully co-exist, by immediately ceasing:
 - a. grey-cyber-war attacks against the TPP members and Allies; and
 - b. industrial scale infotechnological espionage.

In setting out these conditions, it will be important that New Zealand is reminded – through ANZUS and Five-Eyes (AUS, NZ, UK, US, CAN) – where it stands. The seemingly ungracious grandstanding of Prime Minister Jacinda Ardern, incorrectly asserting that the “anchor of AUKUS was nuclear submarines”; gratuitously adding “they [nuclear submarines] couldn’t come into our internal waters” was duplicative. As was her overt signalling to the CPC:

...that there is a role that *others* can play in our region...but the lens we will look at this through, will include stability.

SO WHAT (MARITIME)?

Nowhere is PEW clearer than in the maritime domain and the flagrant disregard and disrepute of UNCLOS, as identified in Paper 2. Dylan Collaery concludes:

- The evolution of the South China Sea dispute and the Chinese attitude to LOSC has been an effective test for the global community to determine whether the CCP will follow existing rules of international law or disregard them.
- The CCP are illegally occupying several features throughout the Spratly Islands

and have no intention to obey customary or treaty law which they themselves are party to.

- The disregard for international law and continued militarisation of the South China Sea will have major consequences for the global rules-based order as the risk of conflict increases each year due to the Chinese unwillingness to arbitrate.

The Global West, not simply the U.S. has been tested and failed. The choice should not be between “appeasement and facing a total and unmitigated defeat (before a shot is fired)”. Paraphrasing Churchill:

An appeaser is one who feeds the dragon – hoping it will toast him last.

绥靖者喂食龙，希望他们是最后一个被敬酒的人。

UNTIL SUCH TIME

The recent announcement of the Enhanced Trilateral Security Partnership between Australia, the UK and US (AUKUS) and the strengthening of relations within the QUAD are both fundamentally Maritime Alliances.

Until such time as the CPC agrees to the suggested TPP conditions, the Global West will have to look to itself. Nowhere is this clearer than in the maritime domains.

If a nation cannot afford to [Politically, Militarily, Economically and Industrially] lose [Fleet] capabilities, they will not be able to use them. And vice versa.

The US needs urgently to set the conditions for building a 600-Fleet Navy in the next decade – comprising 100 submarines (plus UUVs) and 500 surface ships (including optionally crewed surface vessels (OCSVs)). This will require increasing its sclerotic rate of ship-building from 4-7 ships a year to 35-40 a year, until 2032. For the RAN, it will need similarly, to grow to a 100-ship Navy, with 9 nuclear and 11 conventional submarines (minimum), plus UUVs, and 80 surface vessels / OCSVs. Increasing shipbuilding from about 2-ships a year, to ten. For the UK RN, this will require it to grow from about 76 ships, to 150, including 26 submarines (SSNs) and 4 SSBNs plus USVs – requiring its shipbuilding rate to increase from about 3 a year to fifteen.

This will require a whole new tempo and strategic way of critical thinking, designing, capitalizing and scaling – Versatile Modular Systems (VMS), that will also potentially be of value and applicable to Merchant Fleets. This will prove the Global West’s foremost Deterrence. The AUKUS and QUAD navies can do this. They have the designs, passion, ingenuity and people – including in industry, commerce, and in the financial sectors – to create the step change and invent anew



HMS DIAMOND (D34) alongside in Taranto undergoing repairs.

from this inception point. The alternative – staying on the same course – is simply not worth thinking about!

Additionally, the UK, US and Australia through AUKUS (and Five Eyes) will need to learn from and build upon Japanese technologies and know-how, while looking to support QUAD development and interoperability of the Indian Navy – working with Singapore, and other key regional Allies, like South Korea, Taiwan, Canada and, ideally, New Zealand.

GREENWICH STATION

The success of the UK Royal Navy (RUKN) HMS QUEEN ELIZABETH Carrier Strike Group (CSG) Deployment to the Far East, has not come without its cost. HMS DIAMOND – now re-joining the CSG – spent two months shuffling between Mediterranean dockyards waiting to be fixed. In 2020, of the six Types 45s the UK Minister of Defence reported that the whole Fleet had been at sea for a total of 339 days. Of which HMS Defender clocked up 129 days at sea, and two none at all. A Sea-Shore ratio for the class of 15%, from an expected sixty percent. Even HMS DEFENDER only clocked up 35% at sea. Clearly the class has failed to meet its design-specifications (220 days at sea a year, per ship) and should be scrapped immediately. As the Second Sea Lord stated in September:

We must think differently;

Even as we drive the organisation forward two steps, [we must];

[reject]... the backward one step by the hand of tradition, organisational “sacred cows”, caution and censorship – all, regrettably, part of our culture, and;

refresh our designs, our training, our procurement, our doctrine, and our reporting in order to make organisational progress.

It may be too late. Let us hope that RUKN planning is that it is not. ■



REBUILD AUSTRALIA'S MERCHANT FLEET

As Australia faces an uncertain future, there is a growing voice from the Unions, Industry, and across the major parties supporting the need for a national maritime reset. Specifically, to do with both the Merchant and Navy Fleets.

The former Labor Leader Bill Shorten has been a consistent supporter of the need to regrow and vitalise the Merchant Marine. His father, a marine engineer born in Tyneside, England, 1929 – although estranged in later years – imbued in the young Bill a sense of the sea and service. Bill Shorten served two years in the Australian Army (Res). He went to the 2019 election with a plan to build an Australian fleet:

More ships got sunk on the Australian station in World War Two than we have now registered to Australia. Not all those ships were Australian. But you can take my point.

In times of war, we will have to pay amazingly higher tariffs to bring cargoes to Australia or indeed we won't be able to source material.

Noting the recent accidental blockage of the Suez Canal; the U.S. Afghan debacle; and the developing crisis in Lebanon he went on to ask three pertinent questions:



Merchant Navy Day Australian Red Flag Flying over Sydney Harbour Bridge 3 September.

What if the Suez Canal gets blocked and the cost of shipping goes up?

What if China asserts control of the South China Sea?

What if we need to move people quickly from another country like Lebanon in 2006 – we chartered ships in the Mediterranean then ... What if the roads get blocked and we have to carry cement or fertiliser?"

Note. Australian has an estimate 15-20,000 Australian residents in the Lebanon.

Maritime Union of Australia National Secretary and International Transport Workers' Federation President Paddy Crumlin stated on Merchant Seaman Day, 3 Sep 21:

More than 800 Australian merchant mariners sacrificed their lives for the Allied cause during the First and Second World Wars.

He noted that the COVID pandemic had highlighted the need "for our island nation to ensure the global supply chain is not interrupted and [we] re-iterate [the MUA] call for a strategic fleet":

It [is] essential to not only remember the past, but also to look to the future, with policies to revitalise Australia's shipping industry to ensure it is able to continue to support the nation's economic and national security.

Without seafarers, Australia's economy will grind to a halt.

Noting the strategic situation confronting Australia and all Australians, he noted:

In recent decades, the number of Australian-crewed vessels has been slashed, not only costing thousands of jobs, but leaving the country vulnerable to global conflicts or economic shocks that disrupt maritime trade. During past conflicts, Australian-owned vessels crewed by Australian seafarers were available to ensure our supply lines remained in place, but decades of neglect has seen the industry hollowed out.

There has never been a more important time to remember the past and make plans to protect the future by ensuring we have a viable Australian Shipping industry.

The New-Old Deputy Prime Minister, Barnaby Joyce, before his inauguration commented:

I think you need Australian-flagged ships to have full sovereignty.

You need your own space capacity.

You need your own telecommunications capacity.

You need your own fuel capacity.

You need your own shipping capacity.

Mr Joyce considered a military dispute in Taiwan could be "disastrous for Australia: the biggest issue confronting us. It is not Covid, it's not climate change – it is China":

Because that is the one that really can take the liberties off your children. That is the one that really can affect the freedom of your nation. That is the one that you will hold me responsible for if I get it wrong.

They just have to dominate you in such a way as you live your life on their terms; dominate you economically in a way that we just rely on them so much.

Liberal MP Russell Broadbent similarly stated:

It is imperative to have secure supply chains in place around the country to move goods and services, especially food and fuel.

Echoing the position on energy security, The Australian Institute of Marine and Power Engineers have been championing an Australian "security fleet" to underpin fuel supplies.

BOSTON CONSULTING REVIEW OF NATIONAL SHIPBUILDING PLAN

There is demonstrable doubt about CASG's ability to lead and manage the National Shipbuilding Plan. It is understood that the Boston Consulting Group review is urging sweeping changes to how programmes are managed. Indications now confirmed on the announcement of the Nuclear Submarines suggest decisions may include:

The breaking up of CASG into its concepts, proper research (science and technology), development, and materiel branches – as before the failed 2016 First Principles Review;

The appointment of dedicated political Secretarial leads, e.g. Secretary of Navy, and the replacement of [all] Public Service Secretaries and Associate Secretaries;

The development of Cyber, Maritime, Aviation, Land, Space, and Guided Weapons directorates, under dedicated Secretarial Boards, e.g. The Guided Weapons and Ordnance Board. ■



A GOOD PLAN EXPEDIENTLY EXECUTED TODAY, IS BETTER THAN A PERFECT PLAN EXECUTED TOMORROW [1]

By Dr Neil Baird

This paper examines the strategic metaphysical risks facing Australia's submarine programme in light of increasing regional and global strategic competition identified in the 2020 Defence White Paper – a Strategic Update. There are few surprises contained in the Update. What is also unsurprising is the entire wasted effort, lack of urgency, and competency that led to the need to generate an update in the first instance. This paper was written months before the announcement on nuclear submarines. It is prescient and telling. The need to replace COLLINS with an interim Diesel Electric class remains pressing, regardless. For the reasons outlined.

INTRODUCTION

Well before COVID-19, The NLA (see Statement of Policy, page 5), *The NAVY* and some other publications had been warning of a rapidly changing strategic context and the lack of detailed strategic thinking and planning. While, at the same time, it has been clear to any who chose to look, that thinking has been continuing apace amongst our strategic rivals. Nowhere is this clearer than in shipbuilding and it would appear the significant lack of thinking, and thereby good planning, behind the National Shipbuilding Plan.

This paper examines the current, long identified, crisis facing the *Collins-class* replacement programme and makes some suggestions. Given that no one in Government, or even in Defence, will stand up to be counted by promoting Australian acquisition of nuclear submarines and weapons, we really need to return to the drawing board strategically. That will necessitate a complete re-examination of our ship and weaponry purchasing intentions and desires.

Clearly, without “nukes” the whole idea of “forward defence” can be thrown in the bin. That can be left entirely to the U.S. Navy and Air Force with their long ranging ships, aircraft and missiles covering the further reaches of the Pacific and Indian oceans. We should focus closer to home on our 200nm EEZ and the “Arc of Instability” to our north. Eastern Indonesia, the Spice islands, Irian Jaya, Timor Leste, PNG, the Solomons, Vanuatu and New Caledonia, it seems, are to be our “happy hunting ground”. So, we must cut our cloth accordingly and remember always that much of the sea in that region is quite shallow.

CLASS BY LIFE

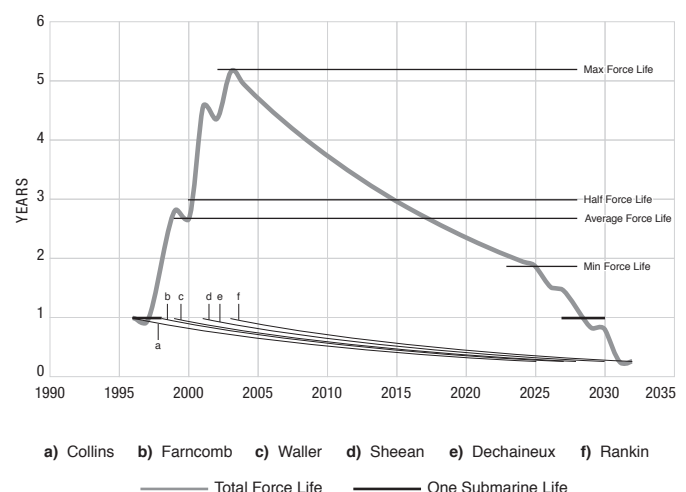
Each class (of submarine) has a Design Life – which for the *Collins-class* was declared at 30 years. Consequently, every individual submarine has a life that starts decaying the moment the ship is commissioned, but the declared Design Life is not necessarily realistic. So many variables in terms of usage, maintenance and accidents must also be allowed for.

Figure 1, examines the *Collins-class* decay rate based upon the first of class commissioning in 1996 and the last (RANKIN) in 2003. Considering each submarine has one life, the maximum force life (allowing for cumulative decay) is 5.2 years – with a minimum force life (as submarines commence decommissioning) of 1.87 years. From first of class commissioning, to last of class decommissioning

(due in 2032), the *Collins-class* Submarine Force generates almost 100 years of [Design] Life. The nominal half-life is 3 years. The average Force Life is 2.69 years.

Noting the stresses placed on steel and specific to those upon a submarine, the Decay Rate is largely immutable and based not simply upon the steel used in the hull, but also the millions of fixtures, fittings, and O-seals that go into making the boat seaworthy. The *Collins-class*, because of its earlier teething problems, may have been used less than forecast. But the decay of the submarine hull as a whole continues, abated only marginally by usage. The *Collins-class* declared Design Life may also be five years (30 as opposed to 25 years) beyond what might reasonably be considered safe in other related industries, e.g., the nuclear industry, working with pressure vessels.

Figure 1: Collins-class Design Life versus Decay Rate



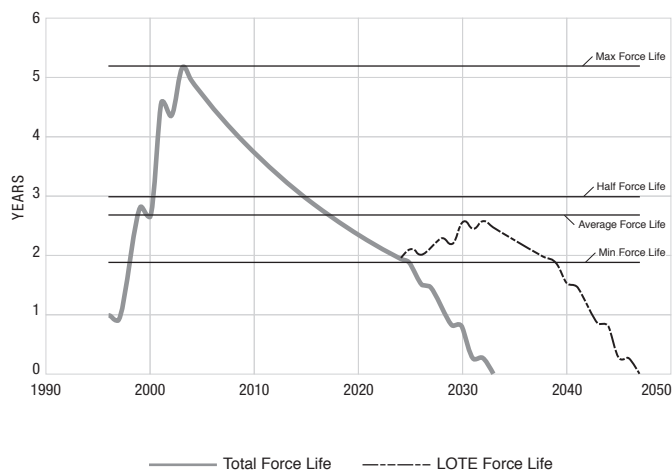
LIFE OF TYPE EXTENSION

A \$6B Life of Type Extension (LOTE) has been announced for the *Collins-class*, along with plans to bring forward the production of the *Attack-class* submarine. That is, think about it, a billion dollars a boat! This may provide Australia with the worst of both worlds. An expensive LOTE programme that will only marginally and expensively increase the life of the *Collins-class*, and an

Attack-class that will be unsustainable alongside the *Collins-class* and potentially compromise further, an already compromised design. In other words, taking a class balanced and attuned as a back-aft, nuclear-powered (heavy-metal) submarine, and replacing it with diesel-electric.

Considering taking the *Collins-class*, and extending its Total Life from 2024, when COLLINS is due to achieve Design Life, and assuming it is possible to restore back to Half-Life (by almost doubling individual hull life remaining) it may be possible to extend force life from 2024 to 2039, see figure 2.

Figure 2: Collins-class Theoretical Life of Type Extension (LOTE)



A *Collins-class* LOTE might provide six operational submarines through to 2039, beyond which (2040-2047) they will need to be replaced by the *Attack-class*.

Currently, the first *Attack-class* submarine is due to be commissioned between 2035 and 2037. That is plainly ridiculous, especially given the current deterioration in our relationship with China. Under present, 3 batches-of-four planning, this will mean advancing the ATTACK submarine, first-of-class build – due to commence in about 2028 – by 5 years. In other words, in less than two-year's time, Adelaide will need to be tooled-up ready to build its first ever submarine. While Navy will need to be preparing to crew the new class of Submarine, from 2031 onwards.

Given COVID-constraints that are likely to remain in some shape or form until the end of 2022 and performance to date – this, obviously, will not be physically possible. In addition to the worsening strategic situation, which means that Australia may simply not have fifteen years to replace its 6 *Collins-class* with twelve, or even six *Attack-class* submarines.

AN EXISTENTIAL CRISIS

Recent tragic examples of forty-year-old submarines given life-of-type extensions after 25-30-years (at Design Life) do not bode well. For example, the Indonesian Submarine, KRI NANGGALA (402), commissioned in 1981; refitted in 2012 and lost with all hands in 2021. Or the Argentinian submarine ARA SAN JUAN (S42), commissioned in 1985; undertook a mid-life extension in 2012; and lost with all hands in 2017. Of course, we know nothing of maintenance or crew training standards in such countries. We can only assume they may not be comparable with ours.

The point is, that any LOTE is taking already *lived* materiel and seeking to extend life-of-class beyond Design Life, or that of its component steel. In the case of the *Collins-class*, extending Force Design Life by almost a third (31 years).

Beyond the very real question of risk posed to our sailors by LOTE, we should also ask ourselves:

“if we would be happy for any of our children (or grandchildren) to be driving a 1980s Toyota Corolla (designed in the late 1970s), in the 2020s”, let alone the 2030s and 2040s?

Not only would we be placing them at existential risk – but presenting them with a technological artefact older than them; any of the technologies they have grown up with, or are accustomed too. Navies already struggle with providing connectivity to their young sailors, used to ubiquitous access – let alone continuity with another scientific age! When most of the crew – average age typically 25 – would not have been born.

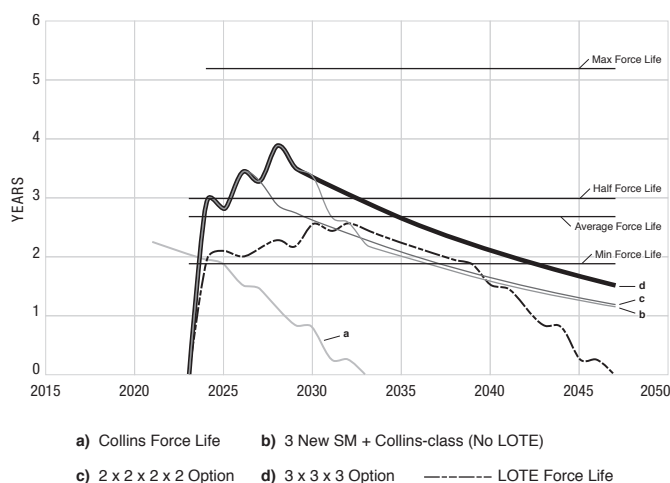
Table 1: LOTE Options

Option	Added Force Years	Force-Life Extension to	Force-Life Extension from 2025 (years)	COST \$Billion	Extension Cost Per Year \$M	Cost \$M / Added Life
3 New SM + Collins (No LOTE)	53	2037	12	\$2.835	\$236	\$53
3 x 3 x 3 Option	62	2043	18	\$4.335	\$241	\$70
2 x 2 x 2 x 2 Option	51	2037	12	\$4.890	\$407	\$95
LOTE	31	2039	14	\$6.000	\$429	\$189

MANAGING LOTE

If LOTE is necessary, for which there is much to advise against, various alternative options may exist to provide a safer extension of life. These include, by 2024 (when COLLINS is due to decommission) preparing to purchase a limited number of new submarines; cannibalising the *Collins-class* submarines to be de-commissioned and undertaking a reduced-cost LOTE based on cannibalising the de-commissioned submarines.

Figure 3: Alternative Collins-class / New Class Extension of Life



Considering this analysis, 3 (new submarines); 3 (*Collins-class* cannibalised), and 3 (provided reduced-cost LOTE), may provide the best value for money and greatest force-life extension. The least preferred option remains the LOTE option, with 2 (new submarines);



The Front Runner the ROK Navy *Jangbogo* (III)-class DOSAN AHN CHANG-HO (SSG-83).

2 (cannibalised *Collins*); 2 (reduced cost LOTE), and 2 provided full LOTE costing less, but at reduced force extension.

Regardless of costs and life extended, each of the variables presented above and by figure 3 would be dependent on bringing forward the *Attack-class* build programme and none would be without significant risk to the remaining extended *Collins-class* submarines.

Neither does this approach take into account the need to identify additional yards and capacity where expensive LOTE programmes can be undertaken alongside the *Attack-class* builds. Probably occurring in parallel and, inevitably, competing for the same resources and specialist workforces. Not all of which could – or probably should for other strategic reasons – be provided through / from / to South Australia. Additionally, with the exception of the *Collins-class* LOTE option, none of the options presented in table 1, avoid having at some point three classes of submarine in the RAN inventory. With all the incumbent costs involved.

ALTERNATIVES TO LOTE

One of the options presented in table 1 and figure 3, is for three new submarines and decommissioning the current *Collins-class* as per their existing Design Lives. This option, is the least cost option and while extending Force Life only to 2037, may pose reduced risk. The three Interim-class submarines would be broadly at or about half life in 2037 – allowing them to be run on as the final *Collins-class* is decommissioned, and as the *Attack-class* (advanced programme) comes on line. In other words, retaining six submarines in inventory (3 *Interim-class* and 3 *Attack-class*); while allowing for future growth of the force to 12 as the Interim-class is decommissioned (at less than Design Life).

An important question remains. If the best option is to purchase, build and commission three *Interim-class* submarines in the mid-2020s, then why not build six, nine, or even 12? If that is the better option for Australia, then what is the advantage of building the *Attack-class* in Australia and, or, advancing its build – presuming that can be done?

Other questions also emerge, to do with the design of the *Attack-class* based upon a nuclear propulsion plant and tear-drop hull, ideally matched to blue-water operations in support of carrier strike groups and for convoy interdiction. But not ideally matched to shallow water operations – as to Australia's archipelagic north – where a boat-hull, matched with diesel-electric, modularised weapons

and crewing fits, and heavy lift (mother ship) capabilities would provide complementary comparative strategic advantage. Thinking this through, it appears that the *Attack-class* are inappropriate to Australia's real, not imagined, geostrategic situation.

ALTERNATIVE BUILDS

Table 2: Some Key Submarine Comparative Characteristics

Class	Length	Beam	Declared / Estimated Displacement	Length (L) to Beam (B) Ratio
<i>Collins-class</i>	77.42	7	3100	11.06
<i>Attack Class</i>	97	8.8	4500	11.023
<i>Soryu-class</i>	84	9.1	2900	9.231
<i>Taigei-class</i>	84	9.1	3000	9.231
KSS-III (<i>Jangbogo</i> III)	83.5	9.6	3358	8.697
Type 212CD	73	10	2500	7.3
Navantia SA80	81.05	11	3200	7.4
Other European	73	6.7	2900	10.895

Setting aside the question of the *Attack-class* for the moment, there are probably only five other non-nuclear submarine manufacturers in the Western-world today – namely Japan, Germany, Korea, Spain, and one other European manufacturer, see table 2. The other European manufacturer identified is by comparison only and not intended to provide any credibility to such a consideration. Korea, of course, builds very efficiently under licence to TKMS.

The question of length and tonnage regarding both the *Attack* and *Collins-class* needs to be considered. Essentially, these submarine designs were seeking to provide blue-water, nuclear-like capabilities, based upon extended ocean passages. Assuming these requirements remain extant, then the question becomes which of the contending class-designs may best match Australian aspirations for a 3500 tonne, blue-water submarine?

Table 3: Potential Submarine Class Extension Comparisons

Class	Length	Beam	Required Displacement	Length / Beam	L to B Change %
KSS-III (<i>Jangbogo</i> III) Extension	86.5 (+ 3m)	9.6	3500	9.01	+3.6%
Navantia SA80 Extension	88.5 (+7.45m)	11	3500	8.04	+9%
Type 212 CD Extension	80 (+7m)	10	3500	8	+9.6%
<i>Taigei-class</i> Extension	98 (+14m)	9.1	3500	10.77	+17%
Other European	88 (+15m)	6.7	3500	13.13	+20%

There are a number of critical reasons why the *Taigei-class* (successor of the *Soryu-class*) should be considered as a front runner. Specifically, to do with the fact that supply and logistics lines are closer through Japan, than they are to the U.S. and Europe. Noting also that Japanese submarine building was always good, even in World War II when their failures were due to generally poor captains and admirals, rather than the boats themselves. They were first rate. The choice of the *Taigei-class* is additionally to do with the fact that Japanese submarine and propulsion technology is cutting edge – more advanced than for similar (non-nuclear) European shipbuilders.



An Equal Contender *Taigai-class* JNS TAIGEI (SSG-513).

In terms of changes to core designs, to achieve the required dimensions, the *Korean KSS-III (Jangbogo III) Extension* offers potentially the least risk option for an advanced submarine currently in manufacture, for delivery of a marginally shorter version in 2025 to the ROK Navy. Relationships between Korean and Australian Defence procurement have not previously been smooth – due in large part to the bungling of Canberra.

The critical problem is the severe loss of face incurred by Japan following the disastrous, cack-handed, seemingly revengeful decision by the Turnbull-Pyne Government to reject Tony Abbott's clear front-runner – and opt for the French designed *Attack-class*, to be built in South Australia. Notwithstanding, the *Tagei-class* option (with or without extension) needs revisiting for any LOTE alternative builds. Concerns can be overcome. The Japanese are pragmatic and well aware of how democracies work.

Similarly, a front runner needs to be the Korean *KSS-III (Jangbogo III) Extension*, which potentially requires least modification. Noting also Korea as a front runner in other Defence contracts, notably with Army for its LAND 400 program.

The third class that requires active consideration is the TKMS 212 CD being commissioned for both the German and Norwegian navies, for building in the 2020-2030 timeframe. The critical issue would be that Australia would not be going alone, and that the design is based upon a successful class of modern submarines. Additionally, given the design breadth of the submarine (10m), the extension to provide for a 3500-tonne vessel is more likely to be accommodated within the design characteristics, than for the *Tagei-class*. That is, if we really require 3,500-tonne boats given our regional operating conditions described above. Almost certainly, additional 2,500-tonne boats would be more appropriate and less costly.

THE TIME HAS COME THE WALRUS SAID TO THINK OF MANY THINGS [2]

Given the incredible mess that our submarine purchasing programme has become, we should immediately halt everything and re-think all aspects of the current expensive and practically useless arrangements. Why not try to escape the political mess that Messrs Turnbull and Pyne have landed us in?

A cursory weighted examination of preferences based on other strategic, trade, and logistic chain considerations, in addition to the risk of changing design characteristics (for a 3,500-tonne submarine) is shown in table 4.

Table 4: Submarine Replacement Weighted Options

Class	Allied Partner / Relationship	Regional Ally / Proximity	Trade & Defence Liaison	Logistics Chain	Extension Characteristic Modifications	Total Weighting
KSS-III (Jangbogo III) Extension	2	1	2	2	1	8
Navantia SA80 Extension	3	3	3	4	2	15
Type 212 CD Extension	3	3	3	3	2	14
Taigai-class Extension	1	1	1	1	4	8
Other European	3	3	5	5	5	21

The two front runners – equally weighted by this analysis – are the Korean *Jangbogo (III)-class extension* (produced under licence with TKMS) and the Japanese *Tagei-class*. Under this assessment, there would be absolutely no advantage going with a European submarine manufacturer (other than France or the UK). Noting, the same analysis would not put NAVAL GROUP ahead of Japan, Korea or, probably, Germany. The worst of all possible worlds would be for Defence to consider the “other European” option – which is, of course, exactly what Canberra has previously done.

THINKING FOR OURSELVES

If only to prevent further incompetent, biased meddling by Canberra, if the option simply related to existing submarines designs that most closely matched a 3,500-tonne displacement – there would be only two realistic options:

- First, the Korean *Jangbogo (III)-class*, and;
- Secondly, the Spanish built Navantia SA80.

The same weighted analysis (table 4) would, nevertheless, place the South Korean *Jangbogo (III)-class* as the clear front runner.

In sum, this analysis suggests:

1. Australia wears the contractual penalties and cancel the *Attack-class* purchase immediately.
2. Close permanently, not sell or transfer, the reportedly over-hyped and tragically under-performing welfare experiment that is the ASC. [3,4]
3. *Pour encourager les autres* – close permanently, disperse, and dis-establish (not privatise or transfer), CASG's (and probably CASG itself) unhappy, incompetently led, contracted-APS \$150M per year Future Submarine Program, along with all its offices in Cherbourg, Adelaide and Canberra.
4. Think short term and applying similar weighting (table 4), purchase COTS boats:
 - a. Extended to 3,500 tonnes, from Korea, only;
 - b. As designed at close to 3,500 tonnes, from Korea or Spain (possibly Japan), only;
 - c. As at COTS design, from Korea or Japan, only.

The only conventional (non-nuclear powered) SSG submarine that competes across all three sub-categories is the Korean *Jangbogo (III)-class*, built under licence to the German company TKMS – itself derived from the highly successful Type 212 class. The second choice, competing in two of the three sub-categories, is the



The only other feasible contended *S-80 Plus-class* (or Isaac Peral class) AS ISAAC PEREL (SS-81).

Japanese-built *Tagei-class*. Only at an extreme, would one go to a European builder, such as for the Navantia SA80 and under no circumstances whatsoever would one touch the “Other European” option. Which, of course, is what Canberra ended up doing for both the *Collins* and (for different reasons) the *Attack-class* submarines.

Mr John Strang AO [5,6] in his two papers of 2015 and 2016 additionally advocated not only nuclear but that Australia, working with the mining industry:

- Develop its own Verstaile Modular System (VMS) *optionally-crewed* submarines (that could act also as UUVs), based upon shallow-water operations to Australia’s north;
- Apply diesel-electric boat-hull designs and, recalling wartime *Q-ships*, heavy lift ships to move the Force up threat rapidly and discretely;
- Allow designs for modularisation-to-task, up threat.

Crewing also needs to be factored urgently into thinking. If Australia is to sustain twelve submarines and associated UUVs in the mid-2030s, it will need a submarine force of about 2,000 submariners – building from a force of about 750 today. On a good day. This is a critical mobilisation question, that will mean expanding the current naval force (with reservists) from about 15,000 to 16,500 (for submariners alone). Given other increases ongoing, and competing for the same resources, Navy needs to be considering a force of 25,000 by the mid-2030s. Including the ability to get there much quicker – potentially delivering a Naval Force of 30,000 (or even larger) in the mid-2030s. In broad terms, this will potentially mean increasing recruiting from 1,500 officers and ratings a year (which has rarely been achieved in recent years), to 1,750 a year in the mid-2020s for submariners, alone; to potentially 3,250 a year by the mid-2030s (for all of Navy). This all presumes “we” have the time to do so.

Alternative crewing methods will require active consideration – noting UUVs do not necessarily reduce crewing requirements, only front-line billets. Whatever choice is made, submariners need to be deployed to stand-by the submarines in-build (wherever they are built), and to learn / influence / absorb the workings of these existential artefacts, directly. This should be a requirement – as for other parent navies (e.g., USN and RN) – of all future ship builds.

— AS EXPEDIENTLY AND CHEAPLY AS POSSIBLE.

In sum, and as expediently and cheaply as possible Australia needs urgently to:

- Buy not just twelve, but at least 25 such (Korean or Japanese) boats, remembering always that we should be aiming to have more eggs in more baskets. They will be a fraction of the cost of the *Attack-class*.
- Match crewed craft with a similar number of un-crewed submarines such as Boeing Orcas to be used like the Air Force’s *Loyal Wingmen*. Combined with the COTS boats mentioned above, the total cost will still only be a small fraction of that of the *Attack-class*.
- Develop new, up-to-date submarine repair and maintenance yards at Henderson and Garden Island, Sydney – revitalising Cockatoo Island dockyard facilities, as available and allowed for within the Commonwealth lease.

- Learn from the Germans and Americans in World War II and recruit and train, very intensively, elite, all-male seagoing crews to operate the above craft whether on-board or remotely.

Note 1: Navy will need to expand current recruitment by up to 20% by the mid-2020s, for the submarine force alone

Note 2: The question of all-male crews will be particularly contentious and is not raised gratuitously. It is not that women cannot serve in submarines. They can and do so very successfully, today. However, the retention rate for female sailors is lower than that for males – for all manner of good metaphysical reasons, not *repeat not* to do with diversity or inclusivity in any shape or form. The impost on crewing arrangements adds metres of cost, measured by power laws for submarines. Where women might best be employed, is in crewing UUVs. But this is an argument for another day.

We need far more bang for our bucks and a much better spread of risks and vulnerabilities than our current submarine programme can ever hope to give us. We must have more appropriate and effective boats far sooner and at far lower cost than we are currently being promised. There is little to no time left to correct the course of our out-of-control Canberra juggernaut.

There is absolutely no reason not to look, today, to procuring COTS submarines from Korea or Japan; while discontinuing immediately and with due regard, the NAVAL GROUP *Attack-class* build. Other than if it were to be a nuclear-powered submarine. ■

About the Author: Dr Neil Baird has spent 43 years as a global maritime publisher, commentator and event organiser as co-founder, with his wife Rose, of Baird Publications, now www.bairdmaritime.com. He has been a commercial fisherman, briefly a naval reservist, a journalist, and, always, a keen yachtsman. He has been involved with the NLA for more than 30 years, including serving several years on its Federal Advisory Council with the late John Strang AO. Currently, he comments on matters maritime, tends to his investments, and is writing a maritime history of Australia.

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JUST MEASURE, MEASURE AGAIN, CUT, AND FIT

By Geoff Hawkins

When I first read the preliminary design parameters of the of the new OPV 80 Arafura class, I thought, at last; 1600+ tons, well, well, at last the RAN will get a versatile and useable warship for second tier duties. Imagine my shock and complete surprise when I saw the initial artist impressions and then the model. Why we continue to think that our patrol vessels should be “lightly armed cruise boats or fishing boats” has got me beat – maybe I am in the wrong century.



Thunderbird 2 (Image from the 1960s Film and TV Series, Thunderbirds, by Gerry Anderson).

INTRODUCTION

Being a keen military modeller and scratch builder, on learning of the *Arafura-class* I immediately found my design graph-paper book and put pen to paper. I ended up with something resembling the *Thunderbird 2* fuselage mounted on two teardrop shaped submarine hulls. It looked great (Perhaps it was just subconscious bias – I’ve always liked the Thunderbirds!!) Then I thought, no, it will be something like a K-130 corvette, austere but a warship.

It was then that I thought of the hardware ad on TV – “Just cut, measure, and fit”- now I’ve worked with my hands my whole adult life (I was an Army Vehicle Mechanic long ago) and I do not recommend “cutting first”.

Start by working out what the purpose is. Then design – so you get rid of as many faults as possible; always referring back to what you are trying to achieve. Then measure – measure it twice or more if you’re getting on, as I am. Then cut – with precision. Then fit – it should be a perfect fit (ah, that’s perfect, well that’s probably close enough!) and hopefully it will be able to do the job that it is supposed to do. It’s simple.

Stalin (or was it Admiral Gorshkov?) said that “Perfect is the enemy of good enough”, but when you end up with something that is not fit for purpose then it is usually because the purpose has not been defined accurately in the preliminary design phase. A ship which is designed for peacetime border patrol probably isn’t going to cut it as the second-tier warship of the RAN during medium to high intensity warfare – or even low intensity conflict for that matter. This means it will be a waste of good crew – young lives not fulfilled,

at a time when we will need every trained person. A waste of good training – we won’t have the time to intensely train replacements. A waste of materials, time, effort and resources – we won’t have time to build replacement ships. I do not see any positive side to this.

HUNTERS

I have the same concerns about the *Hunter-class*. At a time when the missile is the primary weapon of most warships, why does our new primary surface warship have only a 32 cell VLS? If the Russians can put a 48 cell VLS on a 4,500-tonne frigate and plan to put an 80 cell VLS on 8,000 tonnes, and if the Americans can put 96 cells on about 9,800 tonnes, why do we have only 32?

The emerging empirical ratio seems to be that every 100 tonnes equal one VLS. This means that the *Hunter-class* should have somewhere between 64 and 80 cells. At least with the Hunters no steel has been cut yet. It’s not too late to rectify. I hope the Hunters aren’t what I call “armed cruise liners” – this is where the designers are so concerned about crew comfort that the *raison d’être* for the vessel is lost in small print at the bottom of the contract. I know from when I was a young bloke that most bullies have a tendency to back off when their nose is broken and bleeding. It took me quite a few black eyes to learn that lesson! More missiles please!

SITUATION

I’m going to put some ideas forward for discussion – I will not be using NATO STANAG and figures will be minimum values unless specified otherwise. Of course before any discussion takes place certain factors have to be understood.

We need to refine our own fuel and aluminium and smelt our own steel.

The strategic outlook has changed dramatically over the last 10 to 15 years and particularly over the last two to three. COVID 19 and the cancel culture are not the cause but they are certainly symptoms. The “me society” and the inability of government to force the bureaucracy to implement policy are all relevant problems and the general “dumbing down” in the education system has not helped. I have given some of my grandchildren a 100-question general knowledge test. Most of the questions are things I learnt at primary school and early high school – top score so far is 24 out of 100!

Sadly, they have little to no knowledge of history, geography and citizenship education (civics). The majority were innumerate and some were illiterate. Average age was 17. People with this lack of fundamental education are going to be very difficult to train into warriors.



Hunter-class Frigate (Image Navy).

We are confronted and bullied almost on a daily timetable by internet, and foreign and domestic press.

Some of our most needed infrastructure is no longer in our control and our education and scientific institutions have been infiltrated, bribed or simply purchased.

These are all both cultural and security problems. We are a paralysed un-educated culture/society.

We must assume that we are engaged in what General Valery Gerasimov (Russian CGS 2017) referred to as *ambiguous warfare* or Gerasimov Doctrine. We must always remember that, *“war is merely an extension of political policy...”* (Karl Von Clausewitz) There isn't anything about shooting or declarations or treaties in the deal!!

MARITIME-MISSION

To defend Australia, and its' EEZ and territories (sub-surface, surface, air, space and cyber environments). Defend its' lines of trade and communications. To supply by sea and air, logistic, humanitarian, and armed support anywhere in the world in any weather or climate by day or night as may be required.

To fight and win as a single unit, or as part of an RAN or ADF or allied task force.

EXECUTION

Select personnel who have an obvious warrior ethos. Promote leaders into leadership position - good managers will also be required in administrative and logistic positions, yes, there is a difference! Give basic classical education to recruits.

Build ships that are fit for purpose for our mission statement. Build as many as we can afford and crew.

Apply the doctrine of total defence – this is where the entire society becomes part of an integrated defence force.

I know, in 2021 Australia, I am asking for a lot. A little bit of patriotism goes a long way!

ADMINISTRATION

Have a continuous ship-building industry – not stop/start between contracts. Build the right ships – be hard but fair with the budget. Employ contract supervisors with commercial maritime-experience.

Have an experimental, science and technology department so equipment is fit for purpose. (oops – didn't we have one of them?)

Above all make sure that service people are accorded the same rights under law as anyone else, without pre-judgements or trial by media. Ensure that those in charge understand that last sentence.

Ensure conditions of service attract the right people.

COMMUNICATIONS

We should have a Defence show on “our ABC” once a week for half an hour showing all the good and positive things the ADF is engaged in – this should work as a recruitment and information programme – 18.30 to 19.00 Friday night sounds about right to me.

Above all personnel and contractors should be full bottle on the mission statement. RAN, Army and RAAF personnel should have regular briefings about what is going on in the ADF at large.

Every unit should have a suggestion box.

SHIPS

Originally, I was going to attempt to design a fleet that would fit the mission statement but I think a brief critique of selected individual ship types is more in order. I am not ex-navy, and for the most part self-taught, so there are some large holes in my general knowledge. This is not to say that we cannot compare what others are doing now and what our forebears did before. There is some very useful historic knowledge that is available from people that know.

TECHNOLOGY

Things to keep in mind are:

- Co-operative engagement capability which has a huge potential, especially as a force multiplier for a relatively small force such as the ADF;
- Swarming technology for individual units and missiles (particularly loitering missiles);
- Multiple round simultaneous impact (MRSI) for artillery and naval gun support;
- Hypersonic missiles for most applications; directional micro-wave weapons;
- Non-lethal sonic weapons;
- Autonomous vehicles (land, sea and air);
- Intelligent anti-ship mines;
- Artificial intelligence recognition capability

and there is more!

PRIMARY SURFACE WARSHIP

The Hunter-class.

It has the displacement, the power and the sensors to comply with the mission statement. The design really just needs a tune-up. Currently we have nine ordered. There is a very good article by Dr Roger Thornhill, in *The NAVY*, volume 80, number 4. He is far more knowledgeable than I'll ever be but there is some points to be made about this vessel nonetheless.

Propulsion: Combined diesel electric and gas: this combines high sprint speed with good long-range cruise and acoustic stealth. The diesel electric generators, electric propulsion motors



Arafura-class (Image Navy).

and the combining gearbox are all tried and proven technology. The Rolls Royce gas turbine has had some reliability problems in the past – hopefully these have been rectified. Gas turbines usually have “maintenance by replacement” – this means that there has to be a clear pathway into the turbine room – this isn’t necessarily a bad thing – just one more consideration in design when space is being allocated.

Ears/eyes/brain: The hull and towed array sonars are top notch, as is the Australian CEAFAR2 phased array radar system. The AEGIS combat management system coupled to the SAAB Australia interface will be world class.

Missiles: The current design sketches show a 32 cell Mk 41 VLS in ‘B’ position this should be increased to 48 cells, an increase of 2x8 (16) cells which should fit without major redesign. Missile types included will be Standard SM6 SAM with a range of 400 km with mid-course guidance, ESSM block 2, with a range of 50 km (four per tube). Advanced hypersonic or subsonic anti-ship/land attack missiles are on their way? The ship needs ASROC or something similar and of course it will carry two quad Harpoon anti-ship missile launchers. It is unknown whether the new anti-ship/land attack missiles will be in the VLS or quad-mounts. Something which could be considered is a short-range anti-ship/land attack missile that could fit four per tube like the ESSM – just an idea.

Close In Weapons System (CIWS): Currently the ship is designed to have two 20mm Vulcan Phalanx, two 30mm automatic cannon and two machine guns. I think a combined gun/missile system should be developed – this would combine an 11 cell RAM launcher with two Rheinmetall Mauser Mk 30-2 automatic cannon (this is the same auto cannon used by the Army’s Boxer armoured vehicle). This could be a combined Navy/Army project. It could be mounted on ships or an 8x8 MAN truck or trailer. RAAF air defence guards could use it as well. On a phalanx mounting the whole thing would weigh about ten tonnes and have its own guidance sensors.

The specifications say two machine guns – are they 12.7mm, 7.62 NATO, 5.56 or what? Could it carry two 12.7 mm or 7.62mm mini-guns or automatic grenade launchers? Anyway, it should have four/six not two!

Main gun: The main gun in ‘A’ position needs to be 155mm not 127mm. I do not know why a 155mm gun using cased ammunition has not been developed for naval use. Use the barrel off the Army field-howitzer, design a new chamber and case. The magazine and feeder could be copied and enlarged from existing. Use Army projectiles. Set up correctly with a 39 calibre barrel this will give a range of about 24.5 km or 30 km with rocket assisted or the barrel could be smooth bore and the projectile fixed to its own rocket body – thus becoming an elevating/rotating launch tube. Anyway I’m sure this will cause some discussion so I’ll leave it at that!

Light weight torpedoes: Their range is insufficient and if you have ASROC and two helicopters they are unnecessary.

Helicopters: The ship needs two helicopters not one. I would redesign the mission bay to house two helicopters. Remember, just because you can house two helicopters does not mean that you have to.

The build: Build the nine on order (block 1). Build two for the Kiwi’s (at a reduced price), providing, they stop playing “belts and roads”. While the two for the Kiwi’s are being built, test, test and test. This will give a small break to conduct any design modifications necessary.

Now we are ready for block 2A – stretch the ship by one frame - 3m (two frames - 6 m, if necessary). Now fit a second 127mm gun in ‘B’ position forward of the 48 cell VLS (two 155mm would be better!). This will be the land attack variant. Build three of this type, please.

Now we are ready for block 2B – keeping the same overall length as the block 2A delete the second gun in ‘B’ position and increase the VLS to 64 cells. These ships will replace the Hobart class. Build four of this sub-class.

Continue to build block 1 or block 2A or block 2B, as may be required. All built to military/naval standards from Aussie steel, produced in an Australian blast furnace from good Australian iron ore and coal.

SECONDARY SURFACE WARSHIP

The *Arafura-class* is completely unsuitable for the war-time mission statement. As a peace-time police vessel it is a good choice, but it cannot be regarded as a warship.

In war-time the secondary warship will have a lot on its plate, defending Australian territory, patrolling trade lines, escort duties, anti-submarine, flank defence, etc.

One ship that stands out in this role is the Australian Bathurst class. Between 1939 and 1944 Australia built 56 Bathurst class corvettes in eight different shipyards (they were actually designated AMS - Australian Mine Sweepers). They were a true multi-purpose vessel conducting such diverse duties as convoy escort, anti-submarine warfare, mine sweeping, search & rescue, evacuation, shore bombardment, coastal patrol, troop transport, and all this in just 800+ tons. These are all tasks that our new OPV should be able to achieve to meet our mission statement requirements.

We need to apply 21st century thinking to the Bathurst design, for example the primary ASW weapon in WWII was the depth charge now it is the helicopter and ASROC. Anti-mine warfare was done by sweeping (still a good idea), whereas, now we are hunting mines using drones (we are also sweeping mines using drones – more about that later. (See *The NAVY* volume 83 no 2).

So what is needed?

- An all-electric vessel with good cruise range and reasonable top speed, a helicopter-pad for a ten-tonne class helicopter.
- Permanent hangar space for two ten-tonne helicopters or multiple VTOL drones or troops or evacuees.
- The ability to launch and recover 2+ RHIBs, in minimum of sea state 4 – via stern well?

It must have the ability to defend itself from both air and surface attack. The ability to conduct anti-ship or land attack strikes, be proficient at ASW, and of course it needs to be built here having as much commonality with the primary warship as possible. There aren't too many current designs world-wide that we could copy or use as a guide. There is a few that come close providing we don't let size bias our choice. Strangely enough, we just got rid of the ships which fit the criteria; that would be the FFG-7 class. If you gave it a 21st century, make-over, diesel-electric propulsion, a 16 to 32 cell VLS, and added a stern docking well for RHIBs it would be very close.

The best design-guide choice would be a slightly modified US Coast Guard cutter *Bertholf-class*. I am sure there are others, but this one looks right – to my untrained eye.

Don't let size get in the way, let's face it steel is cheap and air is free! Bigger than what we are used to but way more versatile (see *The NAVY*, volume 72, no 1). It should have some *Hunter-class* commonality. Australians have spoken of the tyranny of distance for centuries but never seem to design or build a platform that counters this particular inconvenience.

We will need at least sixteen of these ships, maybe more! Only build enough *Arafuras* to fill the production gap.

Propulsion: Diesel-electric drive – driving two shafts or two electric propulsion pods - same electrics as Hunters?



HMS ARK ROYAL (R07) Operating Harriers an LHA before its time.

Ears/eyes/brain: Fitted with a hull sonar and towed array sonar and CEAFAAR2 phased array radar.

Combat management and interface? Unknown.

Missiles: A 16 to 32 cell Mk 41 VLS in 'B' position for 32 ESSM (4x8) and eight ASROC ASW missiles plus perhaps land attack/anti-ship hypersonic missiles (if we have 32 cells).

Close In Weapons System: One combined gun-missile system with 11 cell RAM launcher and two 30mm Rheinmetall Mauser Mk 30-2 automatic cannon above hangar.

Main Gun: One 127mm gun in 'A' position.

Helicopters: Hangar for two 10 tonne class helicopters. This could also be used for multiple VTOL drones, troop transportation or evacuees.

Added to this, the ship should have a large landing platform and a large stern well for launch and recovery of RHIBs, up to sea state 4 and launch and recovery robotic mine hunting drones.

Designed and built in Australia to Naval and Commercial standards from good Australian steel.

MULTI-ROLE AUXILIARY WARSHIP

This will be the ship that fills the gaps. The government and capability (You really don't know how strange it is to use those two terms in the one sentence!) are a contradiction in terms because the government works on advice – the bureaucracy seems to have a false mathematical concept about capability. Say we have 24 platform A's which are going to be replaced. We have chosen platform B to replace them. The capability of B is double A so we'll buy 12. Using this formula, capability never advances or it advances a lot slower than it should. This has happened time and again at various times throughout the ADF. We need to think, what would we do in time of war? Some forgotten roles – LCH, Mine warfare, Submarine mothership, battle damage repair, Southern Ocean fisheries patrol, fast attack craft mother ship, and there is probably more.

The design guide choice for this vessel would be a slightly enlarged Singapore Endurance class LPD/LST. It would come in two versions, a ballasting (type 1) – wet docking well and a non-ballasting (type 2) dry docking well. It would be built to commercial standards with military oversight. In external appearance both types will look the same. They would need to be slightly larger than the Endurance class – my guess is about 10000 tons.



HMS QUEEN ELIZABETH (R08) Carrier Strike Groups Operating F35-Bs in the South China Sea, Aug 21.

Propulsion: Both types: Diesel electric – yes I know – boring! Why do I keep saying diesel electric or all electric? Well electric motors are extremely efficient – if we do ever have some form of producing electricity by energy cell or chemical reaction then the basics of the vessel won't change. It is the same with the hull – I can't see us ever producing catamaran or trimaran warships economically.

Ears/eyes/brain: Type 1: Basic commercial off the shelf with some military enhancements where required.

Type 2: Hull mounted sonar. Fitted for, but not with, towed array sonar. CEAFAAR phased array radar system.

Missiles: Both types: A 16 cell Mk 41 VLS (2x8) in 'B' position. These could include all various RAN missiles in service – remember, we will have co-operative engagement capability – this means that it is possible for the ship to be a missile carrier while another unit's sensors guide those missiles to target. This could be done by another ship or aircraft or even an Army unit on shore.

Close In Weapons System: Both types: Two combined gun-missile systems with 11 cell RAM launcher and two 30mm automatic cannon. These will probably need to be mounted fore and aft. There seems to be a theme here!

Main Gun: Type 1: One Patria 120mm twin tube advanced mortar system (AMOS) in 'A' position. This is a turreted system which integrates two 120mm smooth bore, breech loading mortars. It can be fitted to most medium weight armoured vehicles or most combat vessels. It has a range of 10 to 12 km depending on ammunition and a maximum rate of fire of 26 rounds per minute, 18 rounds per minute sustained or ten rounds per minute with semi-automatic loading. There is an extended range HERA (high explosive rocket assisted) round with a range of 18 km. AMOS is gyro-stabilized.

Ammunition:

- HE: with proximity or point detonating or delay fuses. AP-L: semi-self-guiding or laser guided armour piercing.
- TB-L: laser guided thermo-baric anti-ship or bunker busting.
- HE-R: semi-self-guiding anti-radiation. And illumination.

This is a good weapon for a ship that operates close to shore, particularly in the amphibious or mine warfare role.

Main Gun: Type 2: One 127mm gun in 'A' position.

Helicopters: Both types: Hangar for two ten ton class helicopters. The flight deck will be Chinook capable.

Small Craft: Type 1: wet docking well for one LLC. Both types: four davits each side of superstructure for:

Landing Craft Vehicle & Personnel or CB 90 Fast Assault Craft or Autonomous Mine Sweeper Drones. One type of these vessels or combinations of types to suite mission could be carried e.g. two LCVP and two CB-90 for rescue mission?

The CB-90 FAC: 15.8x3.8x0.8 m. Max. speed 55+ kts. Range: 500 nm? Diesel powered water jet. Crew of 2 to 5. It can carry 20 fully equipped troops or 2.8 tonnes of cargo. Armament is usually heavy small arms, machine guns, automatic grenade launchers, MAW, ManPAD, etc. This would be an excellent platform for fast sea-borne raiding, coastal armed rescues and riverine/estuary patrols.)

Vehicle/Mission Deck: Type 1: 12+ Main Battle Tanks or equivalents + 350 troops + 20 soft skin vehicles or an Engineer Field Construction Squadron (dozers, loaders, etc.). In mine warfare mode these ships would carry autonomous mine hunters, RHIBs, two LARC Vs, and all necessary equipment for naval clearance dive teams including a ten-person decompression chamber.

Type 2: These ships would be directed toward commando raiding, armed evacuation, Southern Ocean patrol. Accommodation: 350 troops + 18+ amphibious armoured vehicles + two LARC Vs + multiple RHIBs, etc.

The southern patrol vessel could carry some cargo and take some pressure off the RSV Nuyina ice breaker.

It is a bit of a can of worms – can we legitimately send an armed warship into Antarctic territory? I strongly believe that the ice breaker or breakers should be under the White Ensign. Either it is our territory or it isn't. There would be many UN lawyers in fierce disagreement!

The ships could also be used for mine laying, surveillance, communications monitoring, search & rescue, ASW, etc.

All type 2 ships would have ice reinforced hulls PC4 level.

Note: When the new Boxer and Puma/Lynx armoured vehicles come into service the Army will phase out the ASLAV. This means that Army will no longer possess an armoured amphibious vehicle. I would strongly suggest that ADI or some other contractor builds an armoured amphibious vehicle based on the *Transportpanzer* or VAB hull/layout and using Bushmaster mechanicals.

A prototype 6x6 Bushmaster has already been tested.

How much longer does LARC V need to serve? Surely it is entitled to an honourable discharge by now!

The LARC V is very good at what it does – let's just build more. LARC can best be described as a plate alloy boat with four-wheel stations. This should be relatively easy to reverse engineer using laser mapping and computer lofting. The whole thing could turn up at the appropriate yard as a flat pack and just assembled like a model kit.

The Build: We will need a minimum of eight type 1's, this allows for four in the amphibious/logistic role, three in the mine warfare role, and one in maintenance cycle.



The Lithium Powered JNS TAIGEI(SS-513) at the Mitsubishi Dockyard Kobe October 2020.

We should build four type 2's, this allows for one in "commando raider" mode, one in aggressive mine warfare mode, one in Southern Ocean patrol, and one in maintenance cycle. (A fifth type 2 could be configured as a hospital ship – of course all offensive armament would be fitted "for but not with". It may not be worth the effort).

These ships will replace our lost and very handy six LCH and of course HMAS CHOULES when the time comes.

In the inherently dangerous amphibious role I would rather see 24 tanks carried on two ships 12 each. This is called don't put all eggs in one basket doctrine!

*Design and construction should follow the KISS formula:
Keep It Simple Stupid or BFZ bureaucrat free zone.*

SUBMARINES

There has been so much written about this debacle by so many intelligent people. I really don't know where to start.

We need nuclear submarines! I would prefer American. Those that think that the torpedo is best in a deterrent platform are not thinking clearly. A cruise missile has far more range than a torpedo – the weapons fit should be a balance between both weapon types as per *Virginia-class*. As far as finding the crews for 12 boats – that is an entirely different question!

I wonder why we didn't just keep the jigs and produce six new Collins boats incorporating all the modifications. Not ideal, I know, but better than being caught short.

Meanwhile we will need something off the shelf to fill the gap. The Japanese *Taigei-class* (Big Whale) looks very promising although it is in prototype stage. Six HDW 212/214 could maybe be leased from the Germans or perhaps we could go through the necessary legislative changes on nuclear and lease, complete with crews, a small number of nuclear boats. We don't need this problem at this delicate stage in international affairs.

LHD

I am one of those people who can remember when we had an aircraft carrier. It was a stupid error in judgement to have cancelled HMAS MELBOURNE's replacement (HMS INVINCIBLE). We would probably have Harriers in service right now if we had not cancelled.

I note that Singapore has ordered eight F-35Bs with an option for another four. This presents itself as an opportunity for a joint maintenance facility here.

We should bite the bullet and order 24 F-35Bs to be flown by mixed Navy/Airforce crew and maintained by same. This would allow six per LHD, six in training, and six in maintenance/storage.

The Royal Navy uses rolling stops on the QE class to avoid jet blast damage to the flight deck – we could do the same. There are no problems only solutions if we use some Australian ingenuity.

LHA

The LHD's should have a "friend", a single ship with as much commonality as possible with the other two, but more orientated towards air operations but still able to carry vehicles, etc. It would not have a docking well. It should be able to carry 12 F-35Bs. This would allow two vessel continuous operations, with a potential of 12 F-35Bs at sea at any given time. HMAS AUSTRALIA?

AEW could be carried out by modified helicopter or by autonomous lighter than air, diesel/solar electric airship.

(That ought to cause a bit of discussion!!)

CONCLUSION

The RAN is an honourable service and I have friends and indeed relatives currently serving. The RAN will be the front line in any future war, they deserve the best we can afford. ■

REFERENCES/NOTES

[1] See: Ambiguous Warfare / Total Defence: *Strategy & Tactics*, 327, Mar-Apr 2021.



MISSION ECONOMY

A Moonshot Guide to Changing Capitalism

Mariana Mazzucato

Allen Lane: 2 Feb 2021

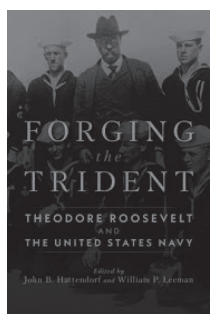
ISBN: 9780241435311

Hardcover: \$50.00

This is perhaps one of the most important books to emerge this century – challenging the inevitableness of *declinism*, as espoused by many of the gilded elites (identified in Professor Marianna Mazzucato inspirational writing). She forcibly identifies the role played by the Accountancy Consultancy Companies (ACC) in compounding the inter-generational poverty of capital and knowledge transfer. She notes the failure citing that “under the cover of COVID, the UK Government suspended all rail franchises and effectively re-nationalised the railways”. Ostensibly for the durations of the health crisis.

Mazzucato, a professor at University College London, notes the role played by ACC like McKinsey – as it does in Australia – involved in millions of taxpayers dollars. She notes that when the UK began Brexit, Government spending on companies such as Deloitte, Ernst & Young, KPMG and PwC, rose from \$145M to \$890M between 2018 and 2019 – “ironic given that Brexit was meant to save money”. One shudders at the \$Billions wasted by CASG and on the National Shipbuilding Plan.

The book concludes, citing the Apollo Moonshot programme, to advocate “doing capitalism differently and re-imagining the full potential of a public-sector driven by public purpose – democratically defining clear goals that society needs to meet by investing and innovating together”. She concludes quoting FD Roosevelt in 1932: “The country needs, and – unless I mistake its temper – the country demands bold, persistent experimentation”. Definitely a summer read, and easy to do so.



FORGING THE TRIDENT

Theodore Roosevelt and the United States Navy

Edited by John B. Hattendorf and William P. Leeman

USNI Press, Fall 2020

ISBN-10: 1682475344

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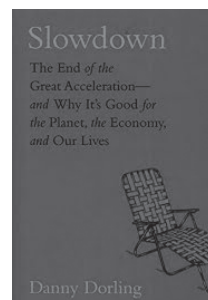
Professor John Brewster Hattendorf, U.S. Naval War College is an American naval historian and author, co-author, of more than fifty books, mainly on British and American maritime history and naval warfare. Associate professor William P. Leeman is director of the Pell Honors Program, who previously taught at the United States Military Academy at West Point.

This important book traces the role of Theodore Roosevelt in building and sustaining and setting the conditions for the US Navy moonshot at the end of the 19th Century, culminating in the Great White Fleet. On 26 Feb 1898, the then Secretary of the Navy John D. Long expressed his misgivings regarding his Assistant Secretary, Theodore Roosevelt. Who while he was on leave had ordered the mobilisation of the Navy; the concentration of the Asiatic squadron in Hong Kong – to ensure in the event of war with Spain, the Spanish Squadron does not leave the Asiatic Coast and take offensive operations in the Philippine Island. Long was worried that he was being usurped – he was – noting Roosevelt’s impertinence was due to the fact that “his wife is very ill and his little boy is recovering from a long and dangerous illness”.

Theodore Roosevelt’s fifth cousin, once removed, although a Democrat not a Republican, in the context of the time more by convention than conviction, built upon and emulated Teddy. He also shared a love of the Navy and a belief that the U.S. had a leading role to play in world affairs. Like TR, in 1913 FDR became the Assistant Secretary of the Navy. Briefly at war in 1917-18, FDR crossed the Atlantic in the Destroyer USS DYER, before touring the front. Intending to join up on his return, FDR fell ill with double pneumonia and the Spanish Flu. Weakened, life was permanently changed – subsequently in 1921 he was diagnosed with polio: infantile paralysis.

FDR’s view was that “the duty of the state towards the citizen is that of the servant to its master”. During the Depression he authorised \$5Billion (in 2021 dollars) of emergency funding to authorise enough new warships to bring the US Navy up to the tonnages allowed by the Washington Treaty. And also allowing for the development of the Aircraft Carriers that were to win the Pacific War.

The forging of the Trident was begun under Theodore at the end of one gilded age of excess (that increased concentration of wealth in the hands of the few), and completed by a very different Roosevelt, in FDR. Today, the Western World again “demands bold, persistent experimentation”, to rebuild from a new gilded age, and develop Tridents fit for the 21st Century. That will take leadership, not excess of management and the ACC. As Mazzucato would testify.



SLOWDOWN

The End of the Great Acceleration – and Why It's Good for the Planet, the Economy, and Our Lives

Danny Dorling

Yale University Publishing:

31 March 2020

ISBN: 9780300243406

Hardcover: \$55.00

Buy this book if you wish to understand the *declinism* (read slowdownism) so typical of English Scholasticism, and which has condemned the world to the dead end – literally – of climate based extinctionism and sell out to gilded professional political elites, media-techs, and ACC. Typified by the nexus of Chief Health Officers. Offering no future but to turn the power off, rather than to launch a new moonshot in the interests of humankind. Replacing enterprise with the rent-seeking divisions of woke-broke critical race theory. Condemning all to victimhood – without hope. A bit like COVID lockdowns and shutdowns before the vaccine.

Professor Dorling’s core thesis is that we live in the shadow of the era of the great acceleration: a period of unparalleled progress, innovation, productivity, and instability that heralded the birth of capitalism, the nation state and advanced technology. He mistakes instability with uncertainty.

His assumption that declining economic growth will lead to an egalitarian social order is his weakest argument. No contemporary working economic models support Dorling’s idea that the decline of war as well as technological and economic invention, innovation, and growth *might* result in a more equal society. Indeed, the experience of economic stagnation following the financial crisis and now COVID stagflation, suggests that disappointed economic expectations could also further fuel nationalism. Just ask the Communist Party of China.

The COVID-19 crisis calls for a grand re-set of how we work, how we enjoy leisure and how we reward workers. Continuing the way we were or reverting to an imagined agrarian past, without energy, hope, and freedom of movement amounts to the same thing: slowdown or declinism. Control orders, diminution of human values (and rights), and lockdowns is not the way out.



THE NAVY LEAGUE OF AUSTRALIA ANNUAL MARITIME AFFAIRS ESSAY COMPETITION



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OR

Emailed to: editorthenavy@hotmail.com

Submissions should include the writer's name, address, telephone and email contacts, and the nominated entry category.

The Navy reserves the right to reprint all essays in the magazine, together with the right to edit them as considered appropriate for publication.

SUBMISSION DEADLINE:

Saturday 20 August 2022

Prize-winners announced in the January-March 2023 Issue of *The NAVY*.



HATCH:

China launches third Type 054 Frigate (PNS unnamed) for Pakistan Navy.



MATCH:

USS HYMAN G RICKOVER II (SSN 795) Christened 31 July 2021.



DESPATCH:

USS WHIDBEY ISLAND (LSD-41) to Naval Reserve.