



ISSUE 133

headmark

SEPTEMBER 2009

*Future Operating Concepts for Maritime
Geospatial Forces & Defending Australia in the
Australia Pacific Century*

*Same, Same but Different;
A Personal Perspective on the Requirements for
a Future Submarine*

*One Schoolie's War: Instructor Lieutenant
Commander George Lawrence Hogben DSC, US
Bronze Star, RNZN, 1939-1945*

*HMS Amethyst.
Simon the ship's cat, & John Kerans,
the black sheep of the RN*

Personnel Retention In The Ran

*Don't call me 'Sir'... the Use of Titles
& Names in the Royal Australian Navy*

Honour: Fundamental Value

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HMAS Sydney arrive in New York, steaming up the Hudson river, Sunday July 19, 2009 accompanied by United States Navy warship USS Mahan



HMAS Sydney steams past the Statue of Liberty in New York harbor, Sunday July 19, 2009

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HMAS Ballarat
during a scenic
sunset at
anchor off the
coast of Egypt*

Issue Number 133

Printed by Everbest
Printing Company

ISSN 1833-6531

Design & DTP:
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Reader Response

Sir,

I commend the Naval Institute for their efforts in promoting informed writing and discussion through the inaugural award of CDRE Roberston Essay. However, in bestowing the award for 2008 on a substandard piece of work “Remilitarising the Australian Hydrographic Service (or (Why the Droggies Need Disbanding)”, (*Headmark*, March 2008) the Institute does itself a disservice and damages the future reputation of this award.

The paper fails on a number of levels. Most notably the author fails to position the discussion within the current strategic context and priorities as stated in the Defence White Paper, but instead harks back to the supposedly “glory days” in a very different context of World War II covert operations. The White Paper (page 47) states that:

“The key to defending Australia is to control the air and sea approaches to our continent, so as to deny them to hostile ships and aircraft, and provide maximum freedom of action for our forces. That means we need a fundamentally maritime strategy. Our strategic geography, our relatively small population and our comparative advantage in a range of technologies all dictate that our defence should focus on our air and sea approaches.”

Given this strategic context, the current role of the Hydrographic Service is very clear, and flies directly in the face of the discussion paper subtitle “Why the Droggies Need Disbanding.” The author’s suggestion that only main fairways and ports need to be surveyed to adequately defend the Nation is an astonishingly naive assumption.

In a thinly veiled slur to his superiors and the government of the day (“The AHO... will continue to commit military operational support to a lower priority in order to achieve accountable-to-Canberra measurable goals”) the author seems confused as to who the Fleet

and Defence Forces are ultimately accountable.

Furthermore, the author fails to achieve the stated intention of the paper (detailed in paragraph 6) through impenetrable grammar and archaic language, overuse (and incorrect use) of acronyms, pretentiousness, overemotional language, incomplete research and most alarmingly, disloyalty to fellow officers and the Service.

I have puzzled long and hard over the meaning of several sections without success, including the following: “*An evolved AHS with wartime antecedent would suggestively leave the extant, contemporary AHS wishing to evolve in its wake when comparing appropriateness of equipment, attitude of officer, and maturity of doctrine, procedures and product.*”

I find it appalling that the author has been rewarded for launching a scathing and unfounded attack on his fellow officers (paragraph 13). The author feels no compunction to provide any hard data to support his statements concerning the four “types” of Hydrographers or his offensive inference that the Hydrographic service is a dumping ground for disinterested and/or incompetent and/or “soft” officers that can’t make the grade at the “sharp” end.

Neither is the comparison between the two specialisations for Maritime Geospatial Officers – Hydrography or Meteorology and Oceanography (METOC) valid. METOC specialists are dealing with the highly dynamic atmosphere, with a specific task of managing constantly changing data within the battle space of a Task Group. For Hydrographers, the same real-time data manipulation capability is not required, as their aim is the collection and correlation of data for use at a strategic or operational level, well before the tactical situation develops. The suggestion that hydrography is not a maritime warfare enabler due to a lack of

‘face time’ with fleet units is absurd.

The stated content of the paper included an “offer of recent examples of operational military surveying in a naval context”. One of these examples is contained in the one sentence of paragraph 22 (United States Naval Service), and according to the footnotes is the sum total of conversations held over three days between the author and the Operations Officer on the *USNS Henson*.

The discussion on hydrography in the Royal Navy also appears totally informed by a recruiting leaflet, the *HMS Enterprise* website and a discussion with the Executive Officer of *HMS Enterprise*. The author claims that nautical charting responsibilities have been transferred from the Royal Navy to the Foreign Office and references the statement through footnote 14 to the above website and discussion. This website states:

“In addition to surveying in overseas areas, [hydrographic] ships of the flotilla are constantly engaged in updating the charts covering the waters around the United Kingdom”

This is clearly at variance with the statement in the paper and brings in to question the reliability of both of the personal communication sources. More specifically the author fails to inform that the national charting responsibility is a joint venture between the Foreign and Commonwealth Office and Ministry of Defence, the latter being a key supplier of vessels and man power (as indicated above), and the immediate hierarchy to the UK Hydrographic Office.

While the author finds no problem with hydrographic ships in the Royal Navy requiring “close escort in a potentially hostile environment” he dismisses the force protection requirements of Australian ships as “baby-sitter operations”.

The author places great emphasis on warfare skills but seems to have forgotten some of the basic requirements of an officer in the Royal Australian Navy and should take some time to re-acquaint himself with the Navy values of Integrity – “the display of truth, honesty and fairness that gains respect and trust from others” and Loyalty – “being committed to each other and to our duty of service to Australia.” I congratulate the author on his recent selection for promotion, and trust that in his new rank he will do more to uphold and mentor these values.

This essay contains few facts, very little discussion and appears to be the platform on which a disgruntled member can air his grievances. The basic structure of an essay is absent, with the sweeping (and unsupported) statements of the concluding paragraphs having no substantive place in the body or indeed the introduction.

In closing, as the first recipient of this award, this winning essay sets the bar very low for future entrants.

Matthew Templeton

FUTURE OPERATING CONCEPTS FOR MARITIME GEOSPATIAL FORCES AND DEFENDING AUSTRALIA IN THE AUSTRALIA PACIFIC CENTURY

BY COMMANDER STEWART DUNNE

"To be, or not to be: that is the question"
– Hamlet (Act III, Scene I)

Like all high level Defence documents post the delivery of the Defence White Paper 2009 (DWP) there will be a need to revisit, if not substantially rewrite the way that business will be conducted in the future.

This is no less relevant to the maritime geospatial world, where future operating concepts, based on traditional modes of operations will have to undergo fundamental investigation to ascertain whether the new requirements of the Defence White Paper can be met and importantly what capability delta will exist when the document deliverables are achieved.

In particular, this new Defence White Paper lays out the Government's

future plans for the development of Force 2030, including the major capability investments that will need to be made in the coming years.

This will directly impact on the Hydrographic Survey Force (HSF). The 100 or so words pertaining to the HSF future are embedded in the Offshore Combatant Vessels section of chapter nine, which detail the rationalisation of the small fleet of vessels with such a large job within Defence. The Government has directed Defence to develop proposals to rationalise the Navy's patrol boat, mine counter measures, hydrographic and oceanographic forces into a single modular multirole class of around twenty Offshore Combatant Vessels combining four existing classes of vessels.¹

This initiative has the potential to provide significant operational

efficiencies and long term cost savings.

Importantly, this will also address seagoing capacity that has been a feature of current survey platform limitations, allowing a degree of flexibility and deployability in how and when the platforms can be used in future.

NEW ROLE, NEW FUNCTION?

Navy is the lead agency for hydrography in Australia. The role is delivered by the Australian Hydrographic Service (AHS), the collective title for the Australian Hydrographic Office (AHO), Hydrographic Survey Force (HSF) and the Directorate of Oceanography and Meteorology. The Hydrographer, head of the AHS, is directly responsible to the Chief of Navy for delivery of Australia's national hydrographic

Royal Navy Multirole Hydrographic and Oceanographic Survey Vessel, HMS Echo (H 87)-photo by Michael Nitz



FUTURE OPERATING CONCEPTS FOR MARITIME GEOSPATIAL FORCES AND DEFENDING AUSTRALIA IN THE AUSTRALIA PACIFIC CENTURY

services.² The Hydrographic, Meteorological and Oceanographic Force Element Group (HMFEG) maintains the Defence capability for hydrographic, meteorological and oceanographic operations and provides maritime, military geospatial information for the Australian.³

In reconciling a new operational concept, the future Maritime Geospatial Force will need to be developed with a clear understanding of how present roles and functions, along with the present methodology of conducting operations, will change with any acquisition of replacement platforms. This is particularly important noting the concept hinges on the use of automated technology. The Defence White Paper details the Offshore Combatant Vessels as a maritime force capability priority for Force 2030. Two things jump out here. Firstly, the fact that this future replacement to the current maritime survey force has been identified as a priority capability and secondly the name *Offshore Combatant* Vessel, arguably brings a different capacity and concept of employment to the hydrographic world. Whatever the intent, the name has certain connotations. This concept relies on the use of modular unmanned underwater systems for hydrographic tasks and goes some way in recognising the growing synergy with mine countermeasures.

These systems are envisaged to be containerised and portable modules capable of being used in any port or loaded onto any of the Offshore Combatant Vessels or other suitable vessels. In keeping with the principle of flexibility, the vessel will be able to undertake offshore and littoral warfighting roles, border protection tasks, long-range counter-terrorism and counter-piracy operations, support

to special forces, and missions in support of security and stability in the immediate neighbourhood.⁴

While the concept is yet to be developed in detail, it could well eventuate that platforms configured for hydrographic survey (*OCV(H)*) will be re-roled to meet specific operational needs. Configuration will be task oriented or dependant on the predominant threat at the time. Primarily the introduction of the *OCV* will allow the HSF to exploit recent (and future) advances in mechanical and electronic technology and future proof the ability to upgrade platforms simply and quickly during the course of the life of the ship. Modular functionality will allow this exploitation, negating the need to upgrade when new classes of ships are introduced or the need for long refit periods. It may also help lessen the acquisition lag that plagues technological based upgrades. The modular concept, housed in a common platform should also help cap purchase and operating costs and realise cost savings demanded by the White Paper.

Using an Australian based scenario, more platforms could be used for border protection operation but with a future change in threat, platform tasking could be slewed towards MCM, without having to procure new hulls. Think of operations in the recent past and today where Hydrographic Survey Force platforms and MHCs have been involved in border protection operations under the auspices of Operations Relex and Resolute. These units have contributed enormously to the desired outcomes, arguably in platforms not best suited to this role. Conversely, envisage the *OCV* with its mission based modular payload. When identified to deploy to a border protection operation the *OCV(H)* would crane its survey related

modules onto the wharf, embark three large high speed RHIBs and a module containing boarding party equipment and potentially a UAV. The *OCV(P)* would then deploy for its border protection duties after conducting a short work up and readiness evaluation

Before the White Paper, Plan Blue recognised the need for multi-mission platforms comprising adaptable, flexible mission systems and identified that there is a need to lessen costs through reduction in crew numbers, increased automation and system and platform commonality. The challenge in replacing the current minor warship fleet with a common platform, modular based payload functionality, is in embracing the concept without assuming the 'jack of all trades' mantle. This would suggest that the "best" equipment would have to be procured to offset specialist ship capability. That is, the mission based payload is effectively the platform's major weapons system and needs a significant investment. This increase in initial investment for a platform with a flexible, multirole capability is a better investment against a ship with limited employability. This initial cost will be offset in savings through commonality in generic platform systems, training synergies and administration.

To some degree the platform, as a carrier of this modular functionality, is less important as long as it provides the required endurance and range required by the strategic intent. It might be useful to use the parlance of the United States Navy in their description of the Littoral Combat Ship (LCS), in that the smaller Offshore Combatant Vessel should be viewed less as a traditional warship, and more as a "battle network component system", that is, a sea frame offering a "basic" hull and highly capable systems.⁵ However, strategic guidance will determine this mix.

There are two key capability attributes which stand out from the White Paper guidance as a requirement of the future force, 'deployability' and 'flexibility'. The Offshore Combatant Vessel certainly has the potential to provide the required flexibility, and in addition, maximizing affordability of the platform. It is also necessary to consider the requirements for global deployability, particularly, as a member of a larger Task Force or Advance Force. This has not often been the operational space of the hydrographic platform, largely due to lack of speed and poor communications. Seakeeping ability, endurance, self-protection measures and speed have been limitations marked by all classes of minor vessels in the current inventory. On a cautionary note, any advantages provided by a future larger hull must be tempered by the realisation that the larger the hull, the lesser numbers will be likely acquired due to affordability issues. But using the patrol boat development as a guide, the previous three classes of patrol boat brought into service have increased in size and capability. These attributes will be provided to the future HSF through the multi role platform, how this capability is captured and transitioned to hydrographic activity is vital to the HSF Concept of Operations. Early involvement in the concept development process and acquisition of Unmanned Underwater Vehicle (UUV) technology is essential to this transition period.⁶ In addition, it is vitally important to draw on the lessons learnt and conceptual validity provided by the experiences of others.

Another realisation that should be met is that the future OCV, despite a high degree of flexibility and employability, will not be a major warship. The future platform will in all likelihood have design features and lesser levels of survivability that

would necessitate protection from major fleet units in certain operational scenarios that require layered defence. Although small crewed combatants themselves appear to be ill-suited for missions where the area of operations is contested, should they be capable of employing unmanned systems, they may be able to make a valuable contribution in such contingencies by operating from stand-off ranges.⁷ This premise is in its infancy and has to be proven through fleet experimentation and assessing the concept as it is used and developed by other navies. The future OCV will primarily be involved in its niche specialist roles, but has the flexibility to be used where the employment of major fleet units is unsuitable or not cost effective.⁸

THE FUTURE MARITIME GEOSPATIAL FORCE: MILITARY VERSUS CIVILIAN

The current Maritime Geospatial Force (MGF) in being comprises the following MGI collection assets:

- a. two Leeuwin class Hydrographic Survey Ships (HS) and their embarked Survey Motor Boats (SMB),
- b. four Paluma class Survey Motor Launches (SML),
- c. a Laser Airborne Depth Sounder (LADS) aircraft,
- d. a Deployable Geospatial Support Team (DGST), and
- e. two Mobile METOC Teams (MMT).

Currently the strategic roles attributed to these assets are:

- a. to meet Australia's obligations for the provision of hydrographic and oceanographic services by:
 - i. supporting Australia's national infrastructure;
 - ii. satisfying Australia's international obligations under the United Nations Convention of the Law of the Sea (UNCLOS) for the provision of national hydrographic services;
 - iii. satisfying national and international obligations to

Paluma class survey ship HMAS Benalla docked at Darling Harbour during the 2008 Sea Power Conference. Behind Benalla is Huon class minehunter HMAS Gascoyne. Under new concepts one hull would replace four. (Image courtesy Saberwyn)



FUTURE OPERATING CONCEPTS FOR MARITIME GEOSPATIAL FORCES AND DEFENDING AUSTRALIA IN THE AUSTRALIA PACIFIC CENTURY



Royal Navy Multirole Hydrographic and Oceanographic Survey Vessel HMS Echo (H 87)-photo by Michael Nitz

- b. to deliver Maritime Geospatial Information and services to enable Defence assets to operate safely and effectively; and
- c. to conduct constabulary, diplomatic and ancillary roles such as search and rescue, surveillance, border protection, defence aid to the civil community and disaster relief.

Drilling down into these roles, Military Geospatial Information and Services and capabilities are provided to ADF operations through:

- direct support to mine warfare, amphibious, air and submarine warfare and other related operations
- provision of maritime geospatial and environmental intelligence for enhanced battle-space knowledge,
- conduct constabulary, diplomatic and ancillary roles such as; search and rescue, surveillance, border protection, Defence aid to the civil community and disaster relief.⁹

Both the Hydrographic and METOC

elements of the HMFEG are currently administered and supported by the HMFEG Headquarters located at the Australian Hydrographic Office in Wollongong, NSW. Noting this future developing OCV concept, the recently promulgated New Generation Navy (NGN) FEG structure might be strengthened by linking Patrol Boats with MCM and Hydrographic elements at this stage, separate from Submarines, creating a 'Littoral' FEG in anticipation of the introduction of the replacement platform. Perhaps the FEG composition might be better delineated by functional groupings rather than environment, particularly, if platforms are re-roled, for example, from a hydrographic platform to a patrol platform. In the Joint Force framework, the MGF integrates as required with the HQJOC Joint Environmental Cell (HQJOC-JEC) to provide the Maritime MGI and products required to assist the production of the REP in support of ADF operations.

There is a persistent undercurrent suggesting civilianising components of the AHS, in particular the functions of the AHO and the survey fleet, which will allow Naval hydrographic assets to concentrate on core military roles

and the data gathered in pursuit of these roles treated as a by-product that would be passed to the civilian charting authority. The national charting responsibilities of the MGF and associated UNCLOS and SOLAS obligations will continue to impact upon the tasking and organisation of the survey fleet. There is a need to conduct strategic national survey tasks that not only deliver to Defence but meet delegated obligations. There is a continual risk of competition between military tasking and the strategic national survey obligation.

It could be argued that this friction will only increase with the delivery of the OCV, noting the greater capability the future platform will potentially offer and the potential roles and employment identified in the DWP.¹⁰ There are, however, synergies between the two functions. For example, the present MGF is facilitating more effective operations for Border Protection Command (BPC) activities in the north of Australia. There is a priority to survey areas within the Torres Strait, which have commercial and defence value. This area contains large areas of poorly charted waters and ongoing survey activity will

remain vital to BPC's capacity to access northern areas to implement Government border protection policies. A precedent has been set however, whereby civilian industry has been contracted to augment the survey activity in the Torres Strait to hasten the activity. The Australian Hydrographic Office long term survey program needs to be reviewed to identify those areas where significant commercial survey input could provide justifiable benefit.

At the end of the day someone has to do it. A purely military HSF has its performance judged in the main by its ability to meet forecast Unit Ready Days (URD) and Mission Capable (MC) days. That is the number of days the unit is available for operational tasking and the number of days a unit is capable of performing those assigned tasks. The HSF are also measured against Hydroscheme days which are days where surveys are undertaken

in accordance with the survey plan outlined in Hydroscheme and Military Hydroscheme.¹¹

The civilian charting responsibility could be handed to a Federal Government department or agency but this would be at a significant financial cost, as the current naval survey capability may have to be replicated or survey tasks outsourced to commercial interests. As indicated previously, recent outsourcing of contract surveys in Torres Strait is an example of this.

The United Kingdom Hydrographic Office (UKHO) may be a future model for a civilian organisation. Headed by a civilian CEO the organisation is responsible for providing a national civilian program to the Secretary of State for Transport and a defence program to the Parliamentary Under-Secretary of State and Minister for Veterans. The UKHO is an Executive Agency of the Ministry of Defence and has operated as a Trading Fund

since 1996. The UKHO also operates a Government Owned Company, Admiralty Holdings Ltd, which acts as an additional vehicle for commercial activities.¹²

In a 2007 Review of the UKHO, the study concluded that a major benefit of the current Trading Fund model is its proven ability to sustain key Government to Government relationships for the exchange of data, and its provision of a clear Government identity for Admiralty brand charts, enabling them to be widely accepted by nations for use by their fleets as official charts.¹³ A Royal Navy Admiral retains the title of UK National Hydrographer and Deputy Chief Executive (Hydrography). With the restructuring of the RAN under NGN, the Hydrographer will come under the umbrella of Deputy Chief of Navy (Head Navy Capability) and the HSF will fall to the responsibility of the Undersea Forces FEG. This poses

Survey vessel HMAS Paluma during ex Kakadu 08-photo by Chris Sattler



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a significant cultural change, but could also be the catalyst for further change.

Whatever the future holds, the MGF of 2020 will arguably require the following attributes:

- High degree of deployability.
- Flexibility in both mission and tasking.
- Capable of conducting self defence against low-medium level threats.
- Capable of sustained operations with high availability.
- Capable of conducting all REA activity types from 1-4.
- Interoperable with an indigenous or coalition ATG.

DEPLOYABLE AND FLEXIBLE HSF – A NEW WHITE PAPER EMPHASIS?

It is not envisaged that the roles and functions of the HSF will change significantly in the period out to 2020. The level of organisational effort to introduce a new class of ship is considerable, however, the need to embrace and understand the future capability early is critical. The envisaged increased demand for maritime MGI products and services, coupled with the significant cultural shift away from traditional employment of the HSF with the delivery of the OCV will require a shift in emphasis of operations and activities both at sea and ashore.

The USN has taken a pragmatic approach to their future combatants with their concept of operations centring on the following goals¹⁴:

Get modular: That is, emphasize modular payloads, open system architectures, and modular re-rolling appropriate for the mission.

Get off-board: The reliance on off-board systems would allow future ships to adjust their range from the shoreline depending on the prevailing enemy threat.

Get unmanned: Unmanned systems (in the air, on the surface and under the sea) feed modular mission packages, especially as they become more autonomous in their operations. Autonomous systems are expected to lower the training burden on crew members, who will be able to focus their efforts on the interpretation of data derived from off-board sensors and systems rather than on controlling their operation.

Get fast: Exploitation of platform speed to gain informational, temporal, and positional advantages over an enemy.

Get connected: Create networks of platforms consisting of overlapping sensor, command and control, and engagement grids linked by numerous webs of man-to-machine and machine-to-machine interfaces.

The growing importance of deployed task group operations particularly those of the Amphibious Task Force, with the delivery of the LHDs, will require the deployment of MGF capabilities within the deployed Task Group. The OCV concept hinges largely on the technological advances in automated technology and the MGI sensors that they will house. Platforms and modular systems will bring both opportunities and burdens, opportunities in terms of the superior understanding of the physical battlespace and the optimisation of sensors and weapons, and burdens in terms of the impost on the Ship's Company for the collection, analysis of the data and the production and dissemination of the products. The ability to collect environmental data in greater amounts will be a feature

of the future operating environment, the potential to analyse this data and optimise systems and weapons for tactical advantage will be greater.

This is particularly relevant noting the Rapid Environmental Assessment (REA) capability needed in amphibious operations. This approach has close links to the Task Group Mine Countermeasures (TGMCM) CONOPS whereby similar highly deployable teams, sensors and MCM effectors are scoped to deploy with the Task Group. With the withdrawal of the Task Group there may be a requirement for ongoing hydrographic surveys, route surveys, channel conditioning and support for MCM operations. At the same time MCM units for stabilisation tasking, which may last for a considerable period after the Task Group has departed), will also be working closely with MGF units.

In the near future, the developing synergies between hydrography, oceanography and MCM will see closer cooperation between MCM Forces and the MGF. In terms of REA and Task Group MCM operations, there will be considerable opportunity to share facilities, equipment and personnel. This trend of closer cooperation between the two forces will also be manifested in the conduct of General Route Survey Operations in both peace time and conflict. The OCV will almost certainly see the responsibility and conduct of this activity will be shared and promote further collaboration. This will necessitate a much greater interaction in exercises and training activities in the future. These common operational and doctrinal links need to be better identified, to produce modern CONOPs reflecting the likely employment of the OCV. While there are different technology requirements for each specialisation,

indications are that in some areas these are becoming more common as technology develops. But there have always been common needs for data processing, precise navigation, small boats, communications etc but this will expand to include common unmanned technology, training and maybe employment of personnel in future. This is particularly pertinent as squadrons of OCV's may deploy for a specific operation. In the 2020's, the Maritime Geospatial Force will need to be multi mission, mobile, flexible and deployable and able to integrate with other concurrent activities.

CONCLUSION

The OCV concept delivered through the recent White Paper brings challenges for the future HSF. Contributing to this, will be how to meet strategic national charting obligations, in light of the operational requirements and demands of the future modular platform. The OCV capability concept provides options that specialist platforms in the past have not been able to provide and allows vessels to adapt to new operational circumstances, affording a surge capability. These options must be recognised as a substantial advantage over other navies with a conventional inventory. It also highlights the need to maintain an idea of flexibility, adaptability and resourcefulness and importantly not be bound by dogma. The mindset must be one of "We can if, not we can't because". Conventional forms of military power obviously have their limitations, showing a need for diversification and flexibility in future. This adaptability and flexibility allows involvement across the spectrum of operations, something which HSF assets have been involved with in the past but the future OCV will see this as a guaranteed *modus operandi*.¹⁵ The

Offshore Combatant Vessel carrying its mission based payload challenges traditional concepts and provides exciting options for the makeup of our future force. The MGF will play a major enabling role for the RAN of the future. The provision of timely maritime MGI will continue to underpin ADF planning and operations processes. In the coming decades all the RAN's twenty six minor fleet units will be replaced by the OCV, a concept that must be embraced early by the military hydrographic specialist. 🚢

Commander Stewart Dunne joined the RAN in 1990, graduating from the Royal Australian Naval College. He undertook a variety of postings at sea before attending Hydrographic Officers Basic Course at Penguin. He has commanded HMAS Benalla as the Charge Surveyor and HUNTER TWO during Op RESOLUTE. He is now Deputy Director Patrol and Hydrographic in Maritime Development Branch. He has recently completed a Masters of International Relations from Deakin University.

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Footnotes (Endnotes)

- 1 Defence White Paper 2009, p.72.
- 2 AHS Annual , p.8.
- 3 AHS Annual , p.9.
- 4 Defence White Paper 2009, p.73.
- 5 R.O. Work, *Naval Transformation and the Littoral Combat Ship*, Centre for Strategic and Budgetary Assessments Paper, February 2004, retrieved 13 May 09, <<http://www.csbaonline.org/4Publications/PubLibrary/R.20040218.LCS/R.20040218.LCS.pdf>>, p.50.
- 6 Anecdotal evidence from other navies suggests that an early involvement with unmanned technology is crucial.
- 7 R.O. Work, *Naval Transformation and the Littoral Combat Ship*, Centre for Strategic and Budgetary Assessments Paper, February 2004, retrieved 13 May 09, <<http://www.csbaonline.org/4Publications/PubLibrary/R.20040218.LCS/R.20040218.LCS.pdf>>, p.ii.
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- 13 Ibid, p.6.
- 14 R.O. Work, *Naval Transformation and the Littoral Combat Ship*, Centre for Strategic and Budgetary Assessments Paper, February 2004, retrieved 13 May 09, <<http://www.csbaonline.org/4Publications/PubLibrary/R.20040218.LCS/R.20040218.LCS.pdf>>, p.75.
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SAME, SAME BUT DIFFERENT; A Personal Perspective on the Requirements for a Future Submarine

CAPTAIN PETER SCOTT

The paper briefly discusses the characteristics and advantages which define the submarine as a pre-eminent naval weapon system, before leading in to an exploration of the important distinction between what we might want the future submarine to be and what we actually need it to do.

The implications of those needs, or requirements, will be addressed, as will any constraints that they impose. The paper highlights the enduring features of submarines as they are relevant to Australia's circumstances, and identifies achievement in the areas of operational effectiveness and the human dimension as the principle determinants of success.

Let me start by describing for you, or at least reminding those of you who have lived this and known it, just what an Australian submarine can be. An Australian submarine - properly built, maintained, supported and armed; fully crewed and worked up, well led and appropriately tasked, is a superb example of naval weaponry.

An Australian submarine can train and exercise our fleet, test the skill and expertise of our allies, it can represent us in multi-national exercises and in the harbours of our neighbours. Big Deal! What else can it do?

An Australian submarine, underway and dived, can also conduct surveillance, reconnoiter, and collect intelligence against an adversary. It can deter an adversary from action against our interests; consume his thoughts, energy and resources; or deny him the sea and strike him down!

Both a symbol and a tool of national will, what I am describing is something much more than a pressure hull with

a suite of sensors and weapons. It is a living, breathing and vibrant thing; a creature of the sea, quite literally sinewy and steely at once. I

am describing that combination of man and machine that coalesce to form a sensitive, cognitive, adaptive, responsive and tremendously powerful instrument; that can prowl the ocean domains unsuspected, undetected and unmolested. Ensign furled, but unequivocally Australian.

THE IMPORTANT DISTINCTION – WANTS AND NEEDS

You may expect that in delivering my personal thoughts on the requirements of a future submarine, I will express an opinion on those specific capabilities and technologies that we will most need in the future. Thankfully, because they are important subjects, there are many others who will address these points during the conference. But I wish to take a different approach, and discuss those enduring characteristics and associated advantages of Australian submarines which define them as a pre-eminent naval weapon system, and explore the important distinction between what we might want the future submarine to be and what we actually need it to do.



ENDURING CHARACTERISTIC ONE – SUBMARINES ARE CREWED BY PEOPLE.

I know what the future submarine will look like! It will look like just like *AE1* and *AE2*. It will be remarkably similar to the first *Oxley* and *Otway*. It will bear an uncanny resemblance to the Oberons and to the Collins Class as well. Indeed, in many respects, it will look like every other Australian submarine class in our history.

The most glaringly obvious similarity is that the future submarine will be crewed by Australian officers and sailors. People. The muscle, sinew and bone, the lifeblood, nerves and brain of a submarine. No submarine is a weapon of war without a skilled and motivated crew. Like every submariner before them, the people who man the future submarine will endeavour to know and understand their mission, their environment, their platform, including sensors and weapons, and, of course, their adversary.

In a warfighting sense, the submariners are the submarine. Well equipped, well trained and well led, they are capable of remarkable feats. As

warfighters, they continually amaze me and exceed my expectations. But it's worth recognizing that the submariners of the future will be no more or less intelligent, no more or less diligent, no more or less capable or even good looking than the submariners of yesterday and today!

The primacy of the people factor extends beyond the billeted crews; there's more to a submarine force than the just the dolphin wearers. It extends equally to the design authorities, the workshops, the schools and headquarters staff that will build, maintain and support the force at sea and strive to hold onto an edge over the life of the class. The first requirement to achieve the submarine of which we are capable, is that every consideration and every related decision must take the people into account.

Enduring Characteristic Two – the environment invokes COMPLEXITY

A reasonable starting point is to examine the most fundamental or broadest overall requirements of a future submarine. In other words, what will we demand of our submarines in the future? Regardless of the mission, notwithstanding the task, we will require that they can contend with the considerable demands of the sea, and of the depths. We will require that they can sustain human life in complete isolation from material support or replenishment. We will require that they can generate the situational awareness necessary to so dominate the information environment that they can maintain tactical advantage and achieve strategic, operational and tactical effects, in whatever role they have been tasked. We will require that they achieve all this across vast distances and over extended periods of time.

No wonder then that, as with their predecessors, the future submarine will be comprised of a highly technical

platform and systems, with an equally complex array of sensors and weapons. Technical complexity, then, is the second enduring characteristic which will feature in the future submarine. The point that I would like to stress here, however, is that this is by necessity, not by desire. And nor should it be by design. I am not a Luddite; I am a mariner, and a submariner. And I tell you, technical complexity is not an objective! It is borne solely of the demands of the environment in which the submarine operates.

We might want a submarine that is at the cutting edge of technological advancement and innovation in every field, but we need a submarine that can be inhabited, understood and wielded by the Ship's Company. There is no glory or prestige in creating the world's most complex submarine and designing or engineering complexity into our submarines doesn't prove we are clever – designing simplicity into our submarines proves we are clever!!

Recognising the inevitable levels of technical complexity, but recalling the fundamental fact that people will need to live in, operate and exploit the advantages of the platform in the most demanding conditions, we actually

need to embrace simplicity, wherever we can find it. In doing so, we will give the crew an opportunity to fight the enemy with the submarine; rather than having to fight the sea, the submarine and the enemy. Naval effectiveness, not technical complexity, is the real measure of success.

ENDURING CHARACTERISTIC THREE – THE ENVIRONMENT DEMANDS RELIABILITY

Complexity is not an objective for our future submarine, but reliability is an absolute necessity. A recent advertisement for Omega boasted the technological advancements that had been achieved over decades of Olympic competition. But the accompanying article made the point that these advancements had never been introduced at the games themselves and stated "the Olympics are not the time for the very latest in equipment so much as the absolutely proven."

There is a lesson for us here and there are two aspects to it. In a submarine at sea, we want the latest, we need the proven. Why is this so? Because application of reliable technology in reliable equipments in a reliable platform is a fundamental necessity of safe, sustained submarine



SAME, SAME BUT DIFFERENT; A Personal Perspective on the Requirements for a Future Submarine

operations. *In doing, so we become!*

In setting to sea, and diving, so we become submariners. In sailing Australian and regional waters, so we become Australian submariners.

There is no doubt that you can teach someone to fly in a simulator, but you cannot make him an airman. Similarly, you can instruct a sailor in the classroom alongside on the art of good submarine practice *ad nauseum*, but he will not know and understand his submarine, he will not know and understand the sea or the environment, and will not be able to contend with an adversary who does. Without the ability to reliably and consistently proceed to sea and operate the submarine, no defence force can maintain and sustain a professional high quality submarine force.

The second aspect to reliability is that when a submarine commanding officer and crew are absorbed with fighting their own submarine because they are overwhelmed by defects, inconsistencies and uncertainties onboard, they are again denied the capacity to know and understand what really matters; their mission, their environment, and their adversary. Design concepts for any future naval vessel which seek to maximize the application of new and unproven technology for its own sake, without due regard for the crew capacity or risks to schedule and reliable performance at sea, will fail to produce the forces that we need. Reliability is an objective!

ENDURING CHARACTERISTIC FOUR – SUBMARINES ARE RELIANT ON STEALTH

It is an entirely reasonable assumption that the future submarines will, at some time in their service, be aggressively targeted by an enemy. To presume otherwise or to let this slip from our consciousness would be

negligent in the extreme. Bearing this in mind, a fourth enduring characteristic is that ultimate tenet of submarine operations – stealth. Preservation of stealth fundamentally shapes the way a submarine

operates and is operated. And again, regardless of the actual mission, it is inevitably the exploitation of stealth which gives the submarine its advantage and permits the desired military effect. However, the pre-eminence of stealth is not confined to noise quieting technologies built into the platform and astute tactical handling of the submarine. Nor does the battle to preserve stealth start when a submarine sails on patrol sometime in the 2020's. The battle to preserve stealth, the backbone of the submarine's tactical advantage, needs to start now.

Mere mortals as we are, having set out to create the future submarine, we will want to boast of our successes. We will want to build the best submarine in the world and tell the world about it, step by step. What we actually need to do is to protect the capabilities of the submarine which can give the force its advantage and make it a world beater on the days it really matters. Equally we need to protect the vulnerabilities that could render the submarines impotent through circumvention or, worse still, lead to their defeat or destruction by a calculating enemy at sea. The actual capabilities and limitations of the future submarine need to be a complete mystery to any potential adversary, until it is unleashed upon him. The consequences of



getting this wrong are likely to be measured in terms of both blood and treasure, and may yet be borne out with the Collins Class.

ENDURING CHARACTERISTIC FIVE – FORCE CONTINUITY

A single submarine is not a submarine force and a submarine force is more than a collection of hulls. It is the coalescence and synthesis of platforms, weapons and sensors with a body of knowledge, skill and experience. It takes years, perhaps decades to build a fully functional and professional submarine force. Once born, in the absence of enemy action or attrition through some other cause, it can be continually re-generated. However, just as a hull can degrade over time or in the absence of proper care and attention, so too can the softer elements of a submarine force. People get rusty quicker than steel, and the consequences of a hole in the experience base of a crew can be just as dire as a hole in the hull.

It follows that the fifth enduring requirement – I do hesitate to describe it as a characteristic of Australian submarines – is continuity of the force. We need to achieve continual re-generation of the submarine force, regardless of which platform is being sailed, and avoid giving birth to a new leviathan every thirty years. We might

want to spend years studying the problem to death, but recognize that the timely introduction into service of the future submarine will be absolutely critical to the retention of perishable skills and levels of experience within the force. Continuity is also critical to avoid exposure to the strategic risk of opening a gap in capability with a subsequent erosion of deterrent effect which might be exploited, either

politically or militarily, by an adversary.

It is worth mentioning here that we quite properly want Australian industry involvement; for reasons of finance, employment, skill and technology transfer and advancement, and strategic control. To achieve continuity of the force, we need a maritime industry which is structured to support the Navy; an industry which understands and is motivated by the

fact that we are in the business of generating sea power to ensure the security of the nation.

This brief paper has sought to highlight the enduring features of submarines as they are relevant to Australia's circumstances, and identify achievement in the areas of operational effectiveness and the human dimension as the principle determinants of success. It has drawn your attention to the need to: focus on achieving a streamlined introduction into service; protect the capabilities and limitations of the force to preserve stealth; demand absolute reliability; acknowledge complexity, but honour simplicity; and remember always that it's not the submarine, but the people who do the warfighting. Regardless of the eventual specifications and particulars of the future submarine, I am convinced that if we meet with success in each of these, we will once again have a boat and a force that rightly demands the respect of ally and enemy alike. ✎

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Captain PMJ Scott, CSC, RAN

Joining the RAN as a Midshipman in 1983, Peter Scott joined submarines in 1988 and qualified the same year onboard HMAS Oxley. He served at sea in three more Oberons and two Upholder

Class submarines before passing 'Perisher' in 1997. In 2002 he was decorated with the Conspicuous Service Cross for his command of HMAS Collins. He thoroughly enjoyed his subsequent command of HMAS Dechaineux.

Scott has served in numerous Joint roles, most notably as Chief of Staff, HQJTF 633. Based in Baghdad, he saw active service in Iraq, the Persian Gulf and Afghanistan during 2006-07, and was subsequently awarded a Commendation for Distinguished Service in the Australia Day Honours List 2008. Scott recently completed a posting to Fleet Headquarters as the Director Submarine Operations and Commander Task Group 627.0. He is currently serving as Chief of Staff to the Vice Chief of the Defence Force.

One Schoolie's War: Instructor Lieutenant Commander George Lawrence Hogben DSC, US Bronze Star, RNZN, 1939-1945

BY DENIS FAIRFAX

In March 1943 a brief entry in the *London Gazette* announced the award of the Distinguished Service Cross to a young RNZN officer for 'bravery and skill in Northern Waters.' This was a veiled allusion to the Battle of the Barents Sea¹ and Temporary Instructor Lieutenant George Lawrence Hogben, known as Larry to his friends, had just become the first instructor officer serving in the Royal Navy to be decorated for gallantry in a naval action.²

On 3 September 1939, as a 24-year-old Oxford undergraduate on a Rhodes scholarship, and part way through an educational tour of Russia, Hogben had knocked on the door of the British Embassy in Moscow and informed a startled official that Britain had declared war on Germany. He had first called at the American Embassy which, unlike the British on that fateful morning, had a working radio. Keen to get back to England quickly, Hogben pawned his suit for the cost of an airfare to Stockholm and, travelling via Bergen and Newcastle, was in London ready to enlist a few days later.³

A naval acquaintance suggested that he should apply for the instructor branch of the Royal Navy.⁴ After doing well at Auckland Grammar School, Hogben had graduated from Auckland University College in 1938 with a first class MA in Mathematics and the University of New Zealand Cook Memorial Prize. The instructor branch was a natural home for such a mathematically-able young man.

Although the educational needs of young officers and sailors had historically been met by the ship's chaplain as a sideline to his spiritual and pastoral work, by the middle of the



19th century separate naval instructors, responsible for training midshipmen in mathematics, writing and navigation, were beginning to be employed. In 1918, with very few combined chaplain/instructors left, the specialist naval instructors had been given the ranks of Instructor Lieutenant, Instructor Lieutenant Commander, etc. Their principal duties remained the instruction of midshipmen. In 1922, when the minimum qualification for the branch became an honours degree in science or engineering, all entrants to the branch were sent to the Royal Naval College, Greenwich, for basic training that emphasised becoming an acceptable naval officer.⁵

Although chastised for his late application by the presiding officer, Hogben impressed the selection board and was one of only eight entrants selected from 400 applicants. The

eight all had first class honours degrees and in October 1939 settled into the august precincts of the Royal Naval College for three months of training. Amongst other subjects, the course covered navigation to a high level, naval architecture and gyroscopic compass theory – in the last of these, Hogben topped the class. Greenwich was a rather different environment from the small mining town of Thames, in the Auckland province, where Hogben was born, and Auckland, where his solicitor father had moved his family in 1920. But a naval life had always been in his mind ever since, as an impressionable seven-year-old, he had seen the battlecruiser *HMS Hood* on her 1924 visit to New Zealand with the Special Service Squadron.

At the end of the three months Hogben took a course in meteorology. This was a common path for

Instructor Lieutenant Commander G.L. Hogben DSC RNZN being decorated with the US Bronze Star in London, February 1946 by Colonel C.M.Thiele, US Army. (Photograph courtesy Sandra Hogben, London)

instructor officers. In 1937, the Naval Meteorological Service had been established within the Admiralty Hydrographic Office and this new specialisation was particularly suited to the expertise of the instructor branch. By 1939 the 'majority of meteorological officers employed as such were Instructor Officers'.⁶

In wartime a further change was to be made to the duties of an instructor officer, a change that was, eventually, to lead to Hogben's DSC. In ships with only one instructor officer, the academic training of midshipmen, if any were borne, became secondary to the vital role of ship's plotting officer. In a compartment directly underneath the bridge the plotting officer, assisted by a midshipman and a small team of ratings, took charge of the 'plot'. The plot was the master chart on which the positions of the ship and any accompanying vessels were continuously recorded from data provided by the navigating officer on the bridge above. (The information came by voice-pipe but the captain and navigating officer would come down regularly to inspect the chart for themselves.) If an engagement with an enemy force was imminent, a routine but somewhat complicated task was to transfer position and course data from a small-scale to a much larger scale chart. In action, the positions of enemy ships and aircraft had to be recorded as soon as possible. These vital plotting tasks were considered appropriate to the skills of the mathematically inclined instructor officers.

With his training over, Hogben was posted to the cruiser *HMS Sussex*, which was involved in Atlantic convoy duty. However, the ship was bombed while in dock in Glasgow and he was soon transferred to the Town-class light cruiser *HMS Sheffield*, based at Gibraltar as a unit of 'Force H' under the command of Vice Admiral



Bismarck at anchor

Sir James Somerville. Force H had been formed in June 1940, after the fall of France and the entry of Italy into the war, to work in the western Mediterranean and to cover the Atlantic convoy routes to Britain from Gibraltar and Freetown in Sierra Leone. The squadron comprised the battlecruiser *HMS Renown*, the fleet carrier *HMS Ark Royal* and eight destroyers as well as *Sheffield*.

Sheffield was the first cruiser to be fitted with surface search radar, which gave it a vital role in the squadron.⁷ *Ark Royal* was not at that time equipped with radar and Hogben was able to use this new tool to identify enemy aircraft for the carrier. The radar operator would report the bearing and distance of enemy ships and aircraft and Hogben would apply this information to his master chart. Incorporating radar echoes soon became a major part of his plotting routine.

From early November 1940 until May of the following year, *Sheffield* was frequently in company with *Ark Royal* and destroyers on escort duty for warships on passage to the Mediterranean Fleet at Alexandria and merchant vessels taking supplies to Malta. On 27 November, with the whole of Force H escorting a fast convoy of merchantmen, there was a sharp but inconclusive hour-long engagement with a strong Italian squadron off Cape Spartivento at the southern end of Sardinia. The routine of convoy escorting was interrupted briefly in the early hours of 9 February 1941 when Force H (reputedly acting on a signal from Churchill to Somerville demanding 'a bit of action in the Mediterranean') conducted a sea and air attack on Genoa, Leghorn and Spezia. Great damage was done to shore facilities but Force H returned to its base unscathed. In this action,

One Schoolie's War: Instructor Lieutenant Commander George Lawrence Hogben DSC, US Bronze Star, RNZN, 1939-1945

Hogben plotted the Italian targets for *Sheffield's* gunfire. After the war he was much embarrassed when his father, having just visited Genoa, remarked on the disgraceful British shelling of a beautiful church there – 'Pop, that was me!' was his rueful rejoinder.

THE BISMARCK ACTION

As a notable hockey player both in New Zealand and at Oxford, Hogben unsurprisingly was made *Sheffield's* sports officer and captained not only the hockey but also the ship's rugby and soccer teams. On 23 May 1941 *Sheffield's* men were playing hockey against *Ark Royal's* pilots at Gibraltar when the game was interrupted at half-time by a call for all men to go back to their ships. Early next morning Force H sailed into the Atlantic on a northwesterly course with orders to act as an escort for the troop convoy WS8B at an early stage of its progress from the Clyde to Egypt via the Cape.⁸

The events that led to this urgent call on Force H had their beginnings earlier in 1941 when, in a two-month Atlantic voyage, the German battlecruisers *Gneisenau* and *Scharnhorst* had destroyed 116,000 tons of allied shipping. To the German Naval Staff this striking success demonstrated that major warships could usefully supplement U-boats, disguised raiders and land-based aircraft in the drive to fatally disrupt allied sea trade. A further foray into the North Atlantic was soon planned for a powerful force consisting of the 42,500 ton battleship *Bismarck* accompanied by *Gneisenau*, *Scharnhorst* and the heavy cruiser *Prinz Eugen*, all under the command of Admiral Gunther Lütjens. Various delays postponed the operation until late May and in the event Lütjens had to sail with just *Bismarck* and *Prinz Eugen*, as both *Gneisenau* and *Scharnhorst* were being

repaired at Brest. The two ships left Gdynia on the 18th and after a stop near Bergen in Norway where, inexplicably, only the *Prinz Eugen* was refuelled, they proceeded northwest to the Denmark Strait between Iceland and the Greenland pack ice. Lütjens had received orders to avoid action with British capital ships and concentrate on destroying merchant shipping. By the 23rd they were steaming southwest, confined to starboard by the ice fields and to port by a British minefield thirty to forty miles away. This minefield, laid in November 1940, barred much of the Strait northwest of Iceland.

On the 20th, the Admiralty had learned through Swedish sources that a German battleship and a heavy cruiser were moving north, possibly to the Atlantic. The cruisers *HMS Norfolk* and *HMS Suffolk* (the latter equipped with the latest model of search radar) under the command of Rear Admiral W.F. Wake-Walker were already patrolling the Denmark Strait off northwest Iceland and were ordered to particularly watch the area close to the edge of the pack ice. The Commander-in-Chief Home Fleet, Admiral Sir John Tovey, sent the battlecruiser *HMS Hood* and the battleship *HMS Prince of Wales* with six destroyers (Vice Admiral L.E. Holland) north from the fleet base at Scapa Flow, Orkney, to Hvalfjord in southwest Iceland. At this stage it was not known whether Lütjens would attempt the lengthy Denmark Strait route to the Atlantic or choose the much shorter but more hazardous direct route from Norway through the Faeroes-Iceland gap. For several days, as Lütjen's force ploughed north, air reconnaissance was foiled by bad weather and Coastal Command RAF could not help the Admiralty to pinpoint the ships' location.

Late on the 23rd the suspense of not knowing the exact location of *Bismarck* and *Prinz Eugen* was dramatically

ended. In the afternoon, *Suffolk* had taken advantage of a fine spell to search the edge of the pack ice and at 7.22 in the evening was startled to observe the German squadron steaming on a parallel southwesterly course about seven miles astern of her. Slipping into the curtain of fog on the landward side and tracking the Germans with her radar, *Suffolk* signalled the first of many enemy position reports. An hour later both *Suffolk* and *Norfolk* sighted the ships in a clear interval before retreating into the fog again, although *Norfolk*, too close, was fired on by the *Bismarck* without effect. *Norfolk's* report of this attack was the first received by Sir John Tovey some 600 miles away, as the earliest of the reports from *Suffolk* did not in fact get to the Home Fleet. The two cruisers continued to shadow the *Bismarck* and *Prinz Eugen* as the German ships continued their high speed dash for the ice-free Atlantic to the south.

Vice Admiral Holland with *Hood* and *Prince of Wales* was only 300 miles away and with Wake-Walker advising the position, course and speed of the enemy, was fast approaching on a converging course. Shortly after midnight on the 24th, knowing that *Bismarck* and *Prinz Eugen* had eluded the shadowing cruisers and believing they had altered course to the southeast, Holland deviated northwards from his westerly course. Two hours later, he realised the enemy warships were still on their original southwesterly course, turned back to the south and then resumed his westerly intercepting course. This two-hour deviation and the fact that, unknown to Holland, *Prinz Eugen* was now leading the *Bismarck* (whose forward radar was unserviceable) were to have a decisive role in the outcome of the imminent battle.

By 3am the cruisers were again in contact with the enemy and the

necessary reports streamed in. At 5.35 in the clear morning light of an Arctic spring day Holland and Lütjens sighted each other's ships. Approaching from astern at a fine angle, in a tactically unfavourable position, *Hood* and *Prince of Wales* were able to fire only from their forward turrets. In addition, Holland mistook *Prinz Eugen* for *Bismarck*, and *Hood* concentrated her salvoes on the wrong ship. (*Prince of Wales* ignored Holland's order and fired on the *Bismarck*.) *Bismarck* and *Prinz Eugen*, however, made no mistake in recognising a vulnerable enemy. Full broadsides from both were directed at *Hood* and on the fifth salvo from *Bismarck* an armour-piercing shell plunged through the battlecruiser's thin deck armour and exploded one of the main after magazines.⁹ *Hood* spectacularly blew up, taking all but three of her 1415 men with her to the bottom. *Prince of Wales*, savaged by the concentrated fire of both enemy vessels, soon disengaged and retreated under cover of smoke, unaware that one of her shells had put two big holes in *Bismarck*'s bow and caused a serious fuel oil leak. Another shell had put a boiler-room out of action. This damage spelled the end of Lütjen's Atlantic mission. He decided *Prinz Eugen* would be detached to carry on with commerce raiding while *Bismarck* would turn southeast and make for a dockyard in occupied France.

The news of the destruction of *Hood* was received with consternation and grief by the Navy, not least in Force H where, as Hogben reports, 'we heard the news, wept and swore revenge.' The Admiralty's response was swift and wide-ranging. Force H was ordered to abandon its intended convoy protection and steer to the northwest. The battleships *HMS Rodney* (from west of the Clyde), *HMS Ramillies* and *HMS Revenge* (from the western Atlantic), together with



two cruisers, were directed to leave their convoys to join in the hunt for *Bismarck*, while Tovey in *HMS King George V* with *HMS Victorious* and his cruisers steered southwest to head off the German battleship on her new course. An aerial torpedo strike by *Victorious* was ineffective and *Bismarck* then eluded Wake-Walker shadowing with his cruisers and *Prince of Wales*. On the morning of the 25th Lütjens broke radio silence to announce his victory and advise his intention to head for France. British direction-finding stations picked up the transmission, allowing the Admiralty to send *Bismarck*'s coordinates to Tovey, but they were wrongly plotted in *King George V*. This error led to a confused steaming away from *Bismarck*'s track for several hours, allowing Lütjens to gain a hundred miles. To conserve fuel, *Bismarck* had reduced speed and after a sighting by a Coastal Command

Catalina, it was confidently assumed that her destination was Brest. Of all the British units, Force H was now in the most favourable position for a decisive interception.

Ploughing into stormy seas on the afternoon of the 26th, *Sheffield* was instructed to find and shadow the *Bismarck* while *Ark Royal* armed her Fairey Swordfish 'String Bag' aircraft with torpedoes. In the plotting room of *Sheffield* a radar 'blip' indicating a large vessel was reported to Hogben and soon after *Bismarck* was sighted from the bridge. The navigating officer dictated a sighting report to Hogben who added the *Sheffield*'s position and sent off the signal to Somerville in the *Renown*. This was the first report to give *Bismarck*'s position exactly and owed its accuracy to the combination of skilful astro-navigation and the use of radar. In Hogben's words, 'we knew exactly where we were.' Unfortunately,

An instructor lieutenant reads off bearings as the battleship HMS Warspite prepares to bombard German shore batteries during the assault on the island of Walcheren, 1 November 1944. (Picture Post, Nov. 18, 1944)

One Schoolie's War: Instructor Lieutenant Commander George Lawrence Hogben DSC, US Bronze Star, RNZN, 1939-1945

the copy to *Ark Royal* was not decoded before the carrier's aircraft took off, and this oversight led to a near-disaster for *Sheffield*. The cruiser was shadowing some 20 miles north of *Bismarck* when *Ark Royal's* torpedo bombers were sighted. Hogben was at the plot discussing the chart with Captain Charles Larcom when he looked out through the scuttle (which should have been closed in action) and spotted *Ark Royal's* Swordfish. Assuming they were headed for *Bismarck*, Hogben merely remarked 'Here are our planes', but soon realised *Sheffield* itself was the target. He shouted 'My God, they're dropping!' The captain leapt up to the bridge and ordered 'Full ahead port, hard astern starboard!' In Hogben's recollection, the engine room staff 'in slight panic did the exact opposite' and the ship heeled sharply to port. Some of the torpedoes exploded on hitting the water while others came at the ship but, through Larcom's skilful combing of their tracks, missed. One, to the horror then relief of the watchers, went right underneath the ship without exploding. Fortunately one of Hogben's late hockey opponents, intent on machine-gunning the deck, recognised *Sheffield* and, as he swept past, flashed 'Sorry for the mouldy' – an apology that was received with mixed feelings by *Sheffield's* shaken bridge team.¹⁰

There was one useful result from this botched torpedo strike. The Swordfish pilots realised their torpedoes fired prematurely (perhaps because of magnetic interference) and the magnetic firing pistols were replaced by contact pistols.

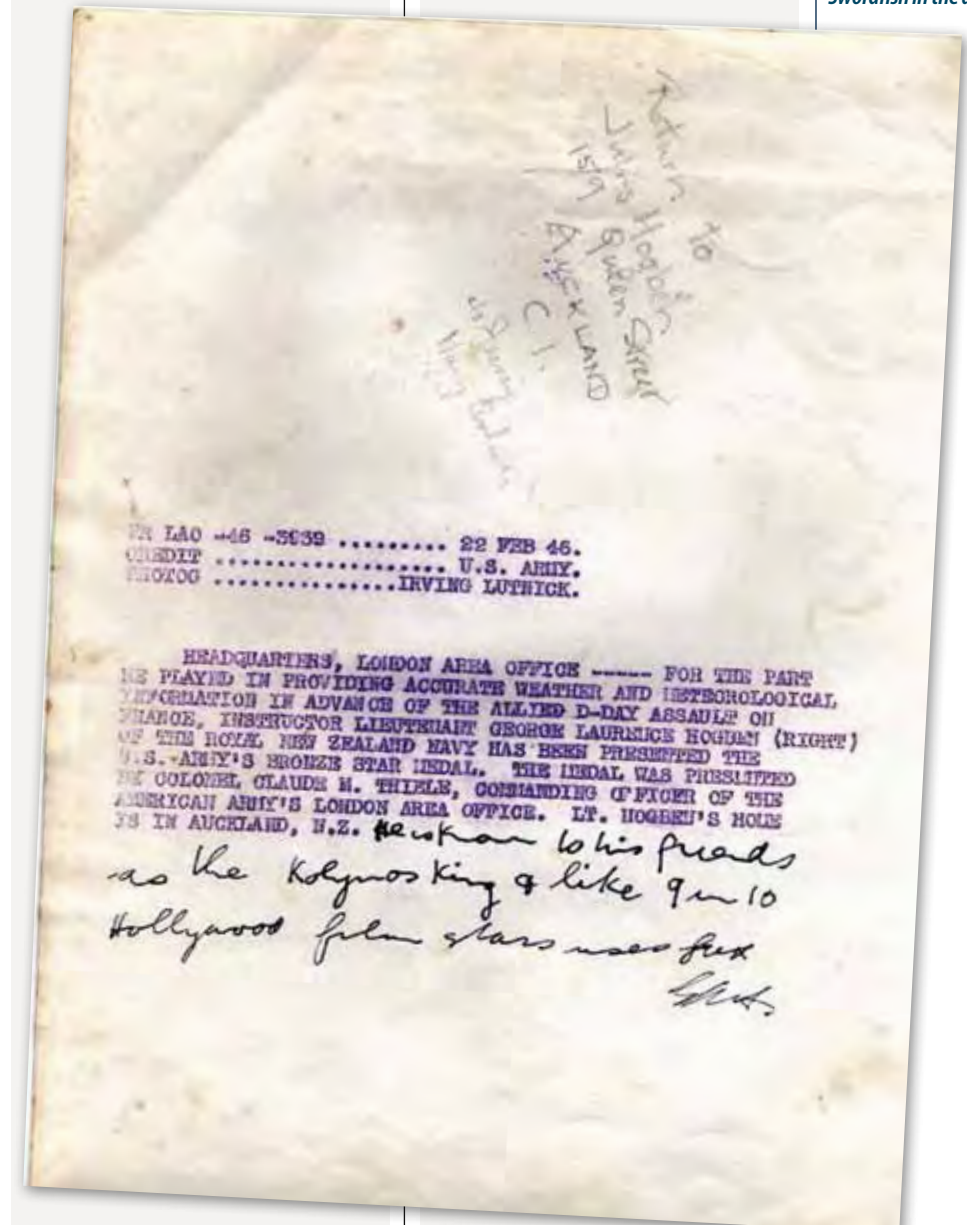
A second strike from *Ark Royal*, guided by *Sheffield* and this time getting the target right, took place that evening with dramatic results. By turning to port to clear the track of one of the thirteen torpedoes, *Bismarck* actually enabled the torpedo to explode in her unprotected stern, damaging

the steering gear and jamming the twin rudders. This was to seal *Bismarck's* fate, but was only observed when Hogben, plotting the German battleship's movements by radar, noticed that after a few unexpected turns the ship was heading slowly northwest. This report was signalled to Tovey, who initially did not believe it. In his view, an unharmed *Bismarck* was still slinking off southeastwards to Brest and *Sheffield* had made a seriously incorrect assessment of her direction. He rammed home his poor opinion of *Sheffield* with the insulting comment that she had 'joined the reciprocal club'. Fortunately, further signals

convinced Tovey that *Bismarck* was, indeed, heading northwest. *Sheffield* herself had ventured too close and now received a salvo from *Bismarck*. Making smoke and retreating, she was straddled by a second salvo which killed five men and put the surface



Swordfish in the air



radar out of action. Soon after, Captain Philip Vian with his five destroyers swept past *Sheffield* with the intention of further disabling *Bismarck* by a torpedo attack.

Bismarck was now essentially unmanoeuvrable. Her rudders were jammed at 15° to port, which thwarted every desperate attempt to steer for Brest. The ship was actually following an erratic northwest course, towards Tovey's fast approaching battleship squadron. On board *Sheffield*, Hogben judged Larcom to be 'exhausted, but still very belligerent'. Quoting a maxim probably learned in World War 1, 'cruisers shadow by day, torpedo by night', Larcom was determined to launch a torpedo attack on the limping battleship as daylight faded. He had to be forcefully dissuaded from this plan by Hogben and the navigator. They argued that not only were Vian's destroyers present for just that task but that were *Sheffield* to get within torpedoing range, she would very likely be sunk by *Bismarck's* accurate fire. That was effectively the end of *Sheffield's* part in the action. During the night, in very heavy weather, Vian's destroyers launched determined but unsuccessful torpedo attacks. Just on 9am on the 27th, Tovey's force was in position to open fire on the wallowing enemy, the 14-inch and 16-inch shells of *King George V* and *Rodney* assisted by the 8-inch guns of the cruisers *Norfolk* and *Dorsetshire* pounding her into a blazing wreck. Three torpedo hits from *Dorsetshire*, combined with the effects of scuttling charges, finished her off. At 10.39am, with flags still flying, *Bismarck* sank. From her crew of 2200, 110 survivors were rescued by British warships and five by a U-boat and a German weather ship.

Sheffield returned to Gibraltar but was soon on the move again. A captured cipher machine and other intelligence had allowed the decoders

of Bletchley Park to determine the positions of the supply ships waiting for *Bismarck* and on 12 June *Sheffield* surprised the tanker *Friedrich Breme* in mid-Atlantic. The tanker scuttled herself as she was fired on, with *Sheffield* rescuing 88 survivors. Hogben was lucky to survive this action. At one stage during the search, there was talk of sending out *Sheffield's* Walrus amphibian (a spotter-reconnaissance biplane affectionately known as the 'shagbat'), with Hogben as observer. A tactful reminder to the captain that more than one observer had been lost during tricky retrievals kept the Walrus firmly on board.

THE MEDITERRANEAN AND ARCTIC WATERS

After a refit at Rosyth Dockyard during July and August followed by an Atlantic convoy, *Sheffield* rejoined Force H in late September 1941 in time to participate in 'Operation Halberd', the third and last major support convoy for the island of Malta that year. The escort for nine transports comprised the battleships *Rodney*, *Prince of Wales* and *HMS Nelson*, the carrier *Ark Royal* for air defence, plus five cruisers and

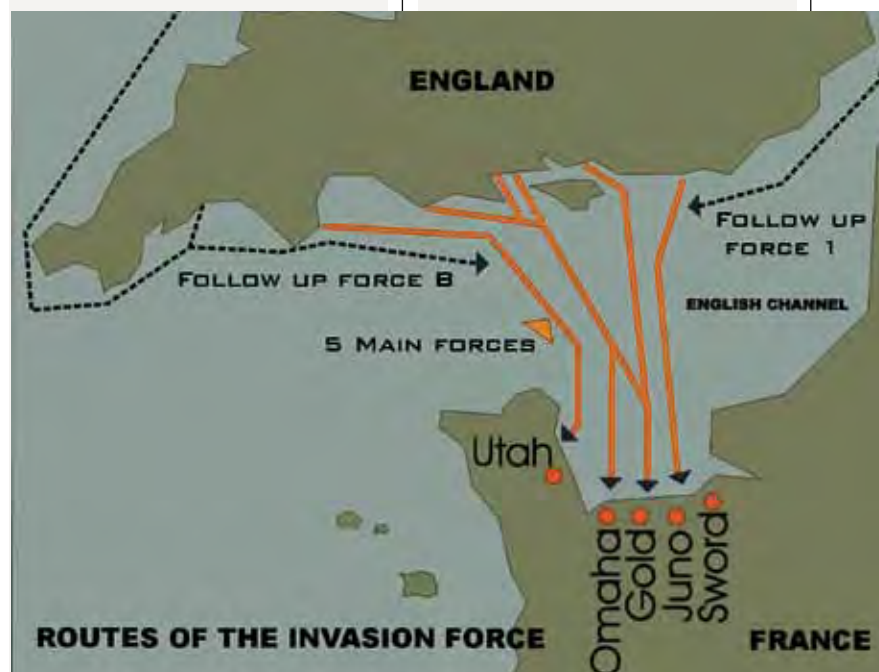
18 destroyers. The convoy came under sustained day and night air attack, but only one ship was lost and 85,000 tons of supplies were successfully delivered to the island.

In early October, *Sheffield* and the cruiser *HMS Kenya* were detached from Force H to search for a German tanker believed to have left Brest to supply raiders and U-boats. This was the *Kota Penang*, her destination the South Atlantic and the Indian Ocean. Intercepted north of the Azores she was sunk by the *Kenya*.

Very soon after, *Sheffield's* association with Force H ended and life for her 700-strong ship's company got much colder and more precarious. The ship was assigned to the 18th Cruiser Squadron of the Home Fleet, which was based in Iceland to escort Russian convoys. The presence of the enemy battleship *Tirpitz* lurking at Trondheim not only was a constant threat to the convoys on their long voyage around northern Norway but also presented the alarming possibility of a break-out into the Atlantic, which would challenge the Home Fleet.

In the midst of the bitter cold and stormy seas of a northern winter, escort duty was difficult and dangerous

D-Day invasion routes



On 1 December *Sheffield* joined the escorts of convoy PQ 5 and the six merchant ships were brought safely to

disaster very much in mind convoy PQ 18 in September was well provided with escorts, was kept in a very tight cruising order and was the first to have an escort carrier, *HMS Avenger*. In spite of very determined torpedo-bomber attacks 27 of its 40 ships reached Archangel. *Sheffield* accompanied this convoy to the Barents Sea and then, with the cruiser *HMS Cumberland*, delivered personnel and supplies to the garrison on Spitzbergen before escorting from Archangel the west-bound convoy PQ 14, which lost three ships to U-boat attacks.

A welcome change for *Sheffield's* ship's company came in October 1942 when the ship returned to the Mediterranean in support of Operation 'Torch', the

This map illustrates the movements of the German battleships Bismarck and Prinz Eugen during the Battle of the Atlantic in 1941. The routes are color-coded: a solid black line for the Bismarck and a dashed red line for the Prinz Eugen. The map includes the following details:

- Geographical Features:** Greenland, Iceland, the Faroe Islands, the British Isles, and parts of Norway, Sweden, and Denmark.
- Key Events and Dates:**
 - May 1st (Sunday):** Bismarck escapes from the British Isles, accompanied by the tanker Belchen and the U-boat scow Locherlingen.
 - May 2nd (Monday):** Prinz Eugen detaches from the Bismarck.
 - May 3rd (Tuesday):** Hood, Prince of Wales, and the battleship King George V are encountered. Hood is sunk at 06.00.
 - May 4th (Wednesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 5th (Thursday):** The Bismarck is sunk at 10.36.
 - May 6th (Friday):** The Prinz Eugen is sighted by the Catalina Z/109 at 10.30.
 - May 7th (Saturday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 8th (Sunday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 9th (Monday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 10th (Tuesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 11th (Wednesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 12th (Thursday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 13th (Friday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 14th (Saturday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 15th (Sunday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 16th (Monday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 17th (Tuesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 18th (Wednesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 19th (Thursday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
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 - May 29th (Sunday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 30th (Monday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - May 31st (Tuesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - June 1st (Wednesday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
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 - July 30th (Saturday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - July 31st (Sunday):** The Bismarck is sighted by the Catalina Z/109 at 10.30.
 - August 1st (Monday):** The Bismarck is sighted by the Catalina Z/1

Allied landings in North Africa. With a US Army combat team embarked, *Sheffield* joined the escort for troop convoy KMF 1. Having transferred the Americans into landing craft, *Sheffield* became part of the Eastern Naval Task Force covering the assault on Algiers on 7, 8 and 9 October. Once Algiers was secured, the push to Tunis required the more easterly ports of Bougie and Bone to be seized and at dawn on the 11th *Sheffield* escorted three transports landing troops at Bougie. The assault was unopposed, but a collision with the minesweeper *HMS Cadmus* damaged *Sheffield* and she returned to Scapa Flow for repairs. A sojourn in the bleak confines of Orkney did not please men who had hoped the repairs would be done in a mainland dockyard. But keeping *Sheffield* there allowed her to be available to intercept any enemy warship attempting to pass through the Orkney-Faeroes gap. By mid-December *Sheffield* was back in Iceland ready for more Russian convoy duty – and another bleak winter.

THE BATTLE OF THE BARENTS SEA

Russian convoy defensive tactics had been reviewed after PQ 18. This review brought to a head marked differences in outlook between the Admiralty and the C-in-C Home Fleet. The Admiralty wanted to continue with large convoys while Admiral Tovey considered that small convoys were better suited to the winter conditions. He believed that as daylight lessened, enemy air reconnaissance would become less effective and thus a small convoy had a greater chance of evading attacks. A small convoy was also more easily reformed if dispersed by stormy weather. Tovey's views on convoy size were accepted and the next convoy, JW 51, was split into two. The

Admiralty insisted, however, that the accompanying cruisers remain with the convoys and their escorts right into the Barents Sea, not leaving them off northern Norway (at 25°E) as was the earlier practice.

Flying the flag of Rear Admiral R.L. Burnett, *Sheffield* (now commanded by Captain A.W. Clarke) with the cruiser *HMS Jamaica* and two destroyers took the 16 ships of convoy JW 51A right through to Kola Inlet, the approach to Murmansk. The voyage was without incident and the convoy arrived safely on 25 December. However, the voyage of the 14 ships of its twin convoy JW 51B, which left Britain on the 22nd, was to be very different. After several quiet days, it was beset by unusually strong gales, with some ships losing sight of the main body. Most eventually rejoined it but two proceeded to Murmansk independently. Burnett's squadron left the inlet on 27 December to support the escorts of JW 51B on its final leg but couldn't find the convoy. The Home Fleet had given the convoy's position incorrectly and Burnett passed ahead of it. In fact, in spite of the action *Sheffield* and *Jamaica* were about to engage in to protect the convoy, the two ships never sighted the convoy at all.

On the morning of the 31st, Burnett was some thirty miles north of the convoy while a German force, consisting of the heavy cruiser *Admiral Hipper* (Admiral Oskar Kummetz) and three destroyers had crossed its wake twenty miles astern. At the same time, the pocket-battleship *Lützow* with three destroyers was fast approaching from fifty miles to the south. In contrast with the wintry gales that were so common on the Murmansk convoy route, the weather was fairly clear with low cloud and a slight sea. Nevertheless, the ships had a good covering of ice.

One of the convoy's escorts soon

engaged with some of *Hipper's* destroyers and a confused action ensued as the senior officer of the escort, Captain R.St.V. Sherbrooke in *HMS Onslow* led his destroyers towards the enemy while the merchant ships continued steaming east making smoke.

From the bridge of *Sheffield* the flashes of gunfire could be seen on the horizon. About fifteen minutes later Burnett received a report of the enemy presence, just after *Hipper* had appeared on the scene and begun a punishing attack on *Onslow*. Burnett's force turned and proceeded south at full speed. Meanwhile *Hipper* had sunk a minesweeper and badly damaged two destroyers. *Lützow* was also very near the convoy, which was shielded by a snow storm. In the racing *Sheffield*, Hogben was busy calculating ranges from his radar traces and feeding them to the gun director. At about 11.30am *Hipper*, unaware of the cruisers' proximity, came under accurate fire from a seven-mile range. With *Hipper* damaged by three hits, Kummetz disengaged his force and retreated to the west, followed by the cruisers. Two fleeing enemy destroyers were intercepted by radar and were attacked, with *Sheffield* sinking *Friedrich Eckholt*, while the other, fired on by *Jamaica*, escaped without harm. Near midday, *Lützow* opened fire on the convoy, damaging one ship. The convoy had turned away making smoke when *Hipper* suddenly appeared, firing for a short time on the escorts. This attack did not last and the enemy force continued its retreat. About 12.30 the cruisers again engaged briefly with the enemy without damage to either side and the pursuit was abandoned about 2pm. All fourteen ships of JW 51B reached Kola Inlet on 3 January 1943.

The northern midwinter day was, of course, very short and Admiral Burnett's report emphasised the

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importance of radar, especially in tracking the enemy ships. It was Hogben's skill in the practical application of radar that earned him his DSC. Captain Clarke wrote that Hogben 'displayed great coolness and the highest ability. His duty as officer-in-charge of the plotting office was, in the conditions of visibility, of vital importance, the success of the tactics employed by the force being greatly dependent upon the accuracy and precision of the plot. All this was provided by him in full measure.'¹¹ Hogben himself recalls of this time that at one stage during the pursuit of *Hipper* the admiral standing next to him said the right course should be 145°. Hogben corrected him, 'The course has got to be 175, not 145,' and the admiral called 'Course 175'. Noting the citation 'for bravery and extreme skill' and Hogben's dismissive 'I don't see this bravery racket', the navigator remarked 'the man who contradicts the admiral in action is brave!'

D-DAY FORECASTING

In February 1943 Hogben left *Sheffield* and the excitement of battle. He was interviewed in London by the Director of Naval Education, who, very pleased to have a decorated instructor officer, offered him a posting as a senior meteorological officer in an aircraft carrier. Hogben, however, preferred a different job – although there were, obviously, no details, it was common knowledge that the Allies were preparing to retake Europe and Hogben wanted to help prepare for this invasion, wherever and whenever it came. This he was permitted to do, joining the forecast section of the Naval Meteorological Branch, which was then housed in the basement of the main Admiralty Building.¹² The analysts worked 45 hours on duty, 24 hours off duty. New data arrived every

six hours and the synoptic charts were put together for one, two, three, four and five days ahead.

In late 1943 Instructor Commander John Fleming (the second instructor officer to gain a DSC) became a meteorological adviser to Admiral Sir Bertram Ramsay. In October Ramsay had been given command of 'Operation Neptune', the naval component of 'Overlord', the allied invasion of northwest Europe – the invasion that Hogben had been waiting for. Fleming recommended that Hogben and Instructor Lieutenant Commander Geoffrey Wolfe be the two naval members of the six-man D-Day forecasting team.¹³ The others were C.K.M. Douglas and Sverre Pettersen from the United Kingdom Meteorological Office at Dunstable and two Americans of the USAAF.¹⁴ Although the six men met each other, they did not work as a group. The three sections remained separate, sharing their analyses and forecasts – and reaching agreement – by telephone. Coordinating all this and presenting the agreed forecast to Eisenhower's senior officers was the task of his chief meteorologist, Group Captain James Stagg, an official seconded from the Meteorological Office.¹⁵

Once June had been decided upon as the best month for the landings in Normandy, there were many considerations in setting the exact date for D-Day and the time of the initial landings (H-Hour). A tide that would be high three hours after underwater obstructions had been cleared was necessary for the landing craft. Ease of navigation required a moonlit night, and this was also important for bombing and the parachute assaults. These predictable phenomena gave only five possible days – 5, 6, 7, 19 or 20 June. On 8 May Eisenhower provisionally decided 5 June would be D-Day. The unpredictable factor was of

course the weather.

All three sections analysed the same meteorological data, which included German observations decoded by Bletchley Park. However, the British and the Americans held fundamentally divergent theories of forecasting, and this made it difficult to arrive at a consensus. The USAAF men, both from the California Institute of Technology, were convinced that their analogue method of comparing the current prediction with weather maps from the past would give reliable 5-day forecasts. The British, knowing their changeable maritime weather patterns at first hand, were sceptical of this approach. They considered that a one-day or, at the most, a two-day forecast was the realistic limit of reliability. With the gifted Norwegian, Pettersen, in the Meteorological Office section, the British approach was a dynamic one using RAF-supplied high altitude wind and temperature data. In addition, the two naval members not unexpectedly thought they were the only ones who really understood the vagaries of the Channel. These divergences meant the discussions leading to an agreed forecast were often quite lengthy and heated, giving Stagg an unenviable task in trying to get the necessary consensus from the team to present to the senior Overlord planners.

A particular problem of wartime forecasting was the paucity of observations from out in the Atlantic Ocean. Not only were the numbers of ships reduced but the restrictions on wireless transmissions gave weather data a very low priority, so for the D-Day forecasts special arrangements were made for this data to be transmitted from ships at sea.

The question of the reliability of five-day versus two-day forecasts was resolved to the satisfaction of Eisenhower and his staff in May. During a run of fairly settled weather

the five-day forecasts proved to be quite unreliable while 18 reasonably accurate two-day forecasts of acceptable weather for the invasion were made. The crucial date of D-Day would thus be determined by a two-day forecast.

At the beginning of June a settled Atlantic anti-cyclone centred to the west of Portugal began to give way to a number of impending North Atlantic depressions, with their associated fronts bringing unsettled weather to the Channel. A calm period was ending on Friday 2 June but what weather conditions would follow, and when? The team concurred in the expectation of a major change about Tuesday the 6th, but in fact the change was clearly happening by Saturday and that evening was to be the time of the decisive forecast. By 4am on the Sunday morning the six forecasters were united in predicting strong winds, overcast low cloud and rough seas for Monday the 5th. Eisenhower was advised accordingly, and two hours before the main invasion force was to leave he reluctantly postponed the landings for 24 hours. With a weakening depression evident, vigorous debate went on all through Sunday as the deadline approached for finalising Tuesday's forecast. While the two Meteorological Office men were more cautious, the Americans and the naval members of the team agreed that a strengthening ridge of high pressure following the expected rain and winds of the Monday would bring in its train a short period of suitable weather, even if, as it turned out, it was only marginal. At the 9pm meeting on Sunday, Eisenhower provisionally agreed to 'go' on Tuesday and as the forecast firmed up during the night he confirmed his decision at 4am on Monday.

Monday's predicted storm arrived but lessened as the day wore on. The first groups of the cross-Channel

invasion fleet sailed early that morning from the Portsmouth area. A following westerly breeze (Beaufort 5) brought swells and choppy seas, causing some of the smaller craft to be swamped, but by dawn the following morning all assault convoys were in place and the greatest seaborne invasion in history began. The moonlit night had allowed bombers to operate and parachutists to land. The Germans, aware that the moonlight and the tides from 5 June to 7 June would be advantageous for an invasion, were nevertheless great believers in the efficacy of long-range forecasts. They had thought the conditions predicted for most of June to be unfavourable and the senior army and navy commanders were absent as the first Allied troops streamed ashore on the coast of France. Back in England, six forecasters and their presenter waited in some trepidation as the Normandy assault went ahead. Would the assault convoys get to France and effect successful landings or would the period of favourable weather they had predicted prove to be too short? Would raging seas, gales and thick cloud wreck the whole great enterprise? Or would the Normandy landings be successful and turn the tide of the war? They were, of course, successful and a grateful Eisenhower awarded the US Bronze Star to Lawrence Hogben and his colleagues for their efforts.

It could, however, have been very different. Had the weather on 6 June been unsuitable for the invasion, all would have hinged on the forecast for the 19th. For that date, the six members of the forecasting team were unanimous in predicting calm seas and clear skies. They were wrong. A sudden, severe northeast gale destroyed one of the 'Mulberry' artificial harbours and drove some 800 small craft ashore. As Hogben says, 'it would have been a meteorological disaster' – and a different history would

have been made.

After working on the D-Day forecasts, Lawrence Hogben continued with the Admiralty Meteorological Branch, working on plans for the invasion of Japan until the end of the war. He declined the offer of a commission in the RN, choosing instead to complete a PhD in meteorology at Imperial College, University of London. He was finally discharged from the RNZN in July 1946. For several years he was involved in commercial forecasting, in particular for the film industry. In 1948 he joined Imperial Chemical Industries (ICI), finishing his career as head of public relations in ICI Europa. In 1978 he retired to live in Soyans, near Crest, in the Rhone Valley, where he was active in local civic affairs. Awarded French nationality, he lives there still with his wife, Elaine, whom he had met at Oxford in 1939 and married while on leave after the *Bismarck* action. 🐟



*A graduate of Otago and St Andrews Universities and a Fellow of the Royal Geographical Society, Commander Denis Fairfax served as an instructor officer in the RAN and RNZN. He is the author of *Navy in Vietnam* and *The Basking Shark in Scotland* and has contributed naval articles to*

the Australian Dictionary of Biography, the Dictionary of New Zealand Biography and The Oxford Companion to New Zealand Military History.

Acknowledgements

Dr G.L. Hogben, DSC, Soyans, France.

Erick Brenstrum, Wellington; Roger Carter, Paraparaumu; John Crawford, Wellington; Instructor Commander J.C.L. Davies, RNZN (Rtd), Lower Hutt; Petar Djokovic, RAN Sea Power Centre, Canberra; Heather Johnson, RN Museum, Portsmouth; Librarian, NZ Meteorological Service, Wellington; Library, Ministry of Defence, Wellington; Commander R.J. Martin, VRD, RNZN (Rtd), Wellington; Oral History Centre, Alexander Turnbull Library, Wellington; Sound Archive, Imperial War Museum, London.

I am most grateful to my wife, Beverly, for her skilful editing.

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- 3 The principal sources for G.L. Hogben's early life and his naval career are four taped interviews: G.L. Hogben – *HMS Sheffield* and the *Bismarck* action; G.L. Hogben in Admiralty Meteorological Team; George Lawrence Hogben interviewed by Hugo Manson; *Transcript – Interview with Dr George Lawrence Hogben*. The general naval background is taken from Roskill, *War at sea 1939-1945*, vols I, II, III part II and Mason, *Service histories for HMS Sheffield*.
- 4 Hogben joined the RN for 'Hostilities Only'. The New Zealand Division of the RN became the RNZN on 1 October 1941 and by July 1942 all 'Hostilities Only' New Zealanders in the RN had been transferred to the RNZN. Administratively, there was little change but one consequence was better rates of pay. (See Fairfax, 'Royal Navy in the Second World War, New Zealanders in').
- 5 The educational needs of ratings were met by warrant schoolmasters. By early 1944 most schoolmasters were university graduates and the instructor/schoolmaster distinction seemed artificial, especially as at sea both types carried out plotting officer duties. Schoolmasters were absorbed into the RN instructor branch in 1946 and the RAN and RNZN soon followed suit. For a general account of the instructor branch and schoolmasters see Lewis, *England's sea-officers*. For the training and duties of an instructor officer in the pre-WW2 RN see Letter dated 20 February 1984 in 'Papers of Instructor Rear Admiral Sir William Bishop' and for the duties of a schoolmaster in the same period see Lawrence, *Naval schoolmaster*: 51.
- 6 Gt Brit. Admiralty, *Naval Meteorological Service*: 19. By mid-1940, most regular RN instructor officers who were senior lieutenants and above were denoted (*Met*) in the Navy list. During the war, many RNVR (Special Branch) officers were also given meteorological training. For the experiences of one of these in an escort carrier, see Ommaney, *Flat-top*.
- 7 *Sheffield* and the battleship *HMS Rodney* were the 'only two radar-fitted ships that were operational' when World War 2 began. *Sheffield's* first radar was an air-warning Type 79Y (Howse, *Radar at sea*: 25 & 30.) Subsequently, *Sheffield* was also equipped with surface-warning radar.
- 8 This account of the *Bismarck* action is based on Hogben, 'Diary', 19 April 2001; Transcript: Interview...Hogben; Roskill, *War at sea*; and Kennedy, *Pursuit*.
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- 12 In late 1943 the Naval Meteorological Branch (within the Hydrographic Department) was staffed by one captain, three commanders, three instructor commanders, five instructor lieutenant commanders, three instructor lieutenants, four RNVR special branch officers and one WRNS officer. (*Navy list*, Feb 1944: 1892).
- 13 This account of the D-Day forecasting is based on Brenstrum, 'The most important forecast'; Hogben, 'Diary', 26 May 1994; Hogben, 'Further light'; and Roskill, *War at sea*, vol. III, part II.
- 14 Petterssen, a Norwegian, was temporarily on the staff of the Meteorological Office. He was a distinguished upper air forecaster and a world expert in his field. (See Petterssen, *Weathering the storm*.) For Douglas' views, see Hogben, 'Douglas'. The USAAF forecasters were B. Holtzman and I.P. Krick. (See Bates & Fuller, *America's weather warriors*.)
- 15 Group Captain J.M.Stagg, OBE, RAF (Meteorological Branch). Although he had practical meteorological experience in the Arctic and in Iraq he was not a forecaster and was not held in much esteem by the D-Day group. His difficult temperament is explicitly mentioned in his obituary. (See Sutcliffe, 'James Martin Stagg' and especially Petterssen, *Weathering the storm*, chapters 16-20, for much comment on Stagg and on the Overlord forecasting process.) Stagg's diaries of the time form the basis of his own book *Forecast for Overlord*. In the book, Stagg is critical of the forecasters – for his comments on the RN forecasters and on J. Fleming reporting direct to Admiral Ramsay, see pp. 55-56 & 103.

PERSONNEL RETENTION IN THE RAN

BY SUB-LIEUTENANT MATTHEW NORRIS

A career in the Australian Defence Force has long been seen as a long-term commitment, offering job security, excellent training and benefits with opportunities to travel and make great friends. Back in the 1970s and 1980s, personnel numbers in the Royal Australian Navy were much higher than today, with all shore establishments manned by RAN members. Civilian contractors were not used at the levels they are today and retention was not seen as a big issue. So what has changed? This article looks at some of the issues the RAN is facing problems with retention of personnel, and offer some possible solutions.

WHAT HAS CHANGED

Society changes constantly. We are all aware of the differences between the generations and that with each new generation of people, values, ideals and outlooks change. The public image of the RAN also continually adjusts. As a result, the reasons people join and choose whether or not to remain in the RAN have also changed. Combine this with the fact that there is much greater competition in the workplace between defence and civilian jobs and it is clear that we need to adjust the way we recruit and retain members. To ensure the RAN gains and retains the required number of members to operate efficiently, we need to be smart in how we recruit, and be aware of these changing needs of current and prospective future serving members.

TECHNOLOGY

At the end of the day, the basis of all jobs in the RAN is to serve and protect the interests of Australia. This will invariably mean time away from



home and family whilst at sea. This is a fundamental cornerstone of a career in the RAN. With the improvements in technology, we should be aiming to make this time at sea away from loved ones as trouble free as possible. On many RAN units, internet access is a major problem. The ability to communicate with family and friends back home is important for members. It improves morale and creates a stronger sense of normality about the job by being able to communicate with the outside world, while being out at sea. If the RAN dedicated more money and resources into finding a workable system that allowed for broadband internet access to all members and facilities such as 'Skype' internet phones to be used during quieter periods of transit etc, then members would benefit by being able to communicate with families and friends more readily than they can now.

THE LURE OF THE DOLLAR

Money is a big driver in how people choose their careers these days. Unfortunately, the RAN finds it hard to compete dollar for dollar with the mining companies and other commercial organisations. The extra allowances that the RAN offers and extras such as medical and dental benefits certainly add up to make an attractive package. However, one reason many members are still leaving the RAN is to change to a job where they will earn a higher wage. The RAN has addressed this problem to an extent through the Navy Capability Allowance. Whilst this is a great incentive, it merely keeps some people signed on for the minimum time required, 18 months. One way to encourage people to stay longer in the RAN would be to offer a reduction in their income tax rate in return for time served. This gives them a financial

Front L-R: Able Seaman Marine Technician Jamie Coombes and Seaman Combat Systems Operator Ashley Hodson. Middle L-R: Able Seaman Boatswains Mate Paul Holthouse, Petty Officer Clearance Diver Michael Kuipers. Back L-R: Leading Seaman Boatswains Mate Benjamin Jones, Leading Seaman Communications and Information Systems Stuart Wylie, Leading Seaman Marine Technician Duncan Sharp

PERSONNEL RETENTION IN THE RAN

incentive to serve for a longer period, and they see the result of the incentive each fortnight in their pay packet.

TRAVEL

Many young members that I spoke with on a ship I served in mentioned that one main reason for them joining was the chance to travel and see overseas ports as part of their work. A job in the RAN certainly provides great opportunities to visit International ports, so long as you are posted to the right ships that are going to the right places. With the cheap cost of air travel these days, it is very convenient and more cost efficient to take a holiday to Asia independently. Younger people are travelling more and more, thus reducing the incentive to join the RAN for the opportunity to travel.

After speaking with sailors from an RN Ship recently, they too commented that they did not get as many trips abroad as they would like. One option

for the RAN is to develop a programme with the RN, USN, CF(N) and our other allies to provide more visits to each other's ports which in turn allows for visits to more diverse locations.

It would also improve the morale of the respective Navy crew, provide for greater working relations between the navies whilst working with one another and encourage individual members to excel so that they may be chosen to be included on such exchanges and visits.

Another option would be have longer periods alongside in foreign ports. Currently, most port visits last about three or four days. By the time the member holds a duty watch, they don't get too much time to see the sights. By providing a longer time in port it will enable members to experience more of the area they are visiting, making the time away seem more worthwhile. Longer periods alongside overseas ports also allows for spouses and families to journey from Australia to join their loved one.

THE MINING SECTOR

In the past, the RAN has lost a large number of members to the mining sector. The lure of a much higher wage is the main driving force for their departure. However, as with all booms, the mining industry is sure to slow down in the future, and many of these people will be looking for work once again. The RAN should be taking steps now to develop initiatives to encourage people to rejoin or choose the RAN over the mines as a career option. The mines don't offer the same levels of superannuation, accommodation benefits, reunion travel entitlements, medical and dental coverage, uniform allowances etc that the RAN does. When personnel leave the ADF they soon miss the entitlements and benefits to which they had in the past and also miss the structure and strength of their ADF jobs. Many may be encouraged back to the RAN if they were able to negotiate returning at a level similar

Sailors all over the world navies have similar problems. Damage Controlman 2nd Class Adam Burg talks about the ram fans used to remove smoke from an area after a fire is extinguished to Nigerian Sailors (US Navy photo)



to that as when they had left. It may well be a case that the grass isn't always greener on the other side.

The RAN Reserve is another option that could be better utilised to assist with RAN retention. Presently, it is primarily made up of members who have left the permanent Navy, as they transition into civilian life. If it were more actively promoted, such as the way the Army Reserve is, we would be able to source many skilled individuals who could provide their services to the RAN on a limited basis. They would be able to experience life at sea without giving a full time commitment, and in return, the RAN gains experience and personnel where they need it most: at sea. A follow-on benefit could be some of them signing up to the permanent RAN.

CAREER MANAGEMENT

One advantage to a career with the RAN is the variety that the job brings. Each posting to a new ship or shore establishment brings about a change in the job at hand. The opportunity for promotion also brings a renewed approach to each job, as responsibility and roles change. For sailors, the career management programme is currently very well managed. They have access to a poster who can plan out their career and locations with a fair degree of certainty. For officers, however, the situation is very different. Having one poster for each Primary Qualification (PQ) overburdens the individual in that position. If more resources were to be implemented to help officers plan their careers, this may in turn gain increased commitment. This would be achieved by creating more poster positions, in turn having more regular contact with officers to gauge their performance and ambitions, and being able to provide them with a more structured and defined career path.

The options discussed in this article all involve cost and effort. In some cases, considerable cost. However, if the RAN is to solve the problem of retention, it must outlay money and resources to be able to source workable long-term solutions. Initiatives to promote retention should consider real time, tangible benefits that provide an ongoing incentive for members to remain in the RAN. Options that reward longevity of service should be strongly considered foremost, as we don't want to lose the strong knowledge base that we built so far.

Failure to invest in the addressing of retention and recruitment problems will result in a continued decreasing number of RAN members. There is a bright and exciting future for the RAN with the investment in Air Warfare Destroyers and Amphibious Landing Vessels. However, these vessels are not going to achieve their maximum efficiency if we don't have the personnel to man them. The last thing we want to see is Major Fleet Units sitting idle, because we don't have the personnel to man them, similar to our current submarine fleet.

Australian society has changed dramatically over the last 20 years or so, and now the focus on retention of RAN members must also change to keep up with our ever-evolving society. Failure to do so could be disastrous. 🌊



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Sub-Lieutenant Norris was the inaugural winner of the CDRE Harry Adams essay competition for Midshipmen and Sub Lieutenants. His prize was a return airfare to the United Kingdom including \$500 spending money. As part of the prize Sub-Lieutenant Norris spent a week at Britannia Royal Naval College Dartmouth. At the time of writing this paper Matthew Norris was serving in HMAS Sirius.

Don't call me 'Sir'... the Use of Titles and Names in the Royal Australian Navy

BY LIEUTENANT JULIAN O'SHEA

"A rose by any other name would smell as sweet." – William Shakespeare

["Not if you called them 'stench blossoms.'" – Bart Simpson]

The culture of Defence and indeed wider Australia has seen changes in recent years. Some aspects of Naval life, however, have remained constant for decades. This essay looks at one of the most consistent and recognisable parts of military life – the use of names and titles within the Royal Australian Navy – and compares it with contemporary society to see how appropriate current practices are within 21st century Australia.

AUSTRALIAN SOCIETY AND LANGUAGE

Like most languages, the Australian English of today owes a lot to history and cultural influences. This language and its usage in turn further shapes current culture and society. The result we have today is a language similar to British English, with influences from other nations and a uniquely Australian twist.

English, particularly the version used within Australia, is an anti-authoritarian language where the use of words changes very little when addressing people of higher and lower status. While it possible to show respect through tone and the additions of titles such as Mr/Mrs, the language and word-use is largely the same. This is in stark contrast to languages such as Japanese where the language and vocabulary changes significantly when talking to people of different status – parents, strangers, managers, customers and elders. Additionally,



Japanese has different vocabularies for men (stronger and superior) and women (passive and feminine) which further underlines their hierarchical society.

The use of slang and language reinforces one of Australia's core values – that all people are equal. This egalitarian view has grown from our nation's humble beginnings and has become a true part of the national psyche. As a broad cultural rule, Australians value modesty, sincerity while loathing pretentiousness (tall poppy syndrome).

THE USE OF NAMES

Most written correspondence within the Australian Defence Force is done in a manner which neglects to use individuals' first names, even for communication amongst people of the same rank. This practice relies on the old-fashioned principle of using titles, initials and surnames for identification. Whilst in the past this

was commonplace there has been a distinct move away from this practice from almost all facets within wider Australian society. The reference for written communications within Defence is the Australian Defence Force Publication *ADFP 102 – Defence Writing Standards*.

In contrast, at the highest level politicians are sending the message to Australians that calling them by their first names is preferred. This was Prime Minister Kevin Rudd's approach as he rode the wave of 'Kevin07' into the Lodge last year. Mike Carlton (*Sydney Morning Herald*) along with other journalists started referring to the previous leader of the Opposition as "Just-Call-Me-Brendan" (Nelson) for his style with members of the public. It is important that politicians are seen to be able to connect to the man on the street, and calling yourself Mr Rudd, Mr Turnbull or Dr Nelson makes this a harder proposition.

From politics to pop culture the shift is the same. Pick up any gossip

magazine and you will find yourself on a first name basis with all the A-list celebrities who you have never previously met: Britney, Paris, Brad and Angelina (well, perhaps 'Brangelina' is more likely).

Within Defence, *ADFP 102* does formally provide flexibility with the use of given names in written communication. An extract: "The signature block is set at the left-hand margin, is single-spaced and usually contains the following information: (a.) initials (or given name) and family name (in all upper-case bold typeface)." This means that both of the following formats are acceptable:

J.A. COLLINS
LEUT, RAN

or

JOHN COLLINS
LEUT, RAN

Despite this, each of the examples included within *ADFP* uses initials exclusively – a practice which has become the norm with the RAN and has led to many people having the mistaken belief that it is the only correct format. For correspondence outside of the Australian Defence Force this is particularly problematic as it fails to tell the recipient one of the most important pieces of information: the full name of the sender. Noting that one of the core principles of written communication is to effectively get the information across as clearly as possible, this makes current Defence practice dated and, at times, counterproductive.

SIR / MA'AM

The origins of the words "Sir" and "Ma'am" (short for Madam) are from the French words *sire* (lord)

and *madame* (my lady).

In modern Australia outside of the uniformed environments these titles are not commonly used – predominantly only used when addressing customers, in formal

correspondence and to strangers. The full phrase "Madam" is even rarer, used in titles such as "Madam Speaker" or (and in sharp contrast) to mean the woman who runs a brothel.

The Australian Defence Force, as with other militaries around the world, has retained the use of "Sir" and "Ma'am" for use when addressing superior Officers. Historically the title has been used when addressing people of different social standings or age, although with the ADF being an equal opportunity employer with entry being on merit, the use of these titles is based on rank alone.

Australia's egalitarian attitude does not lend itself well to the use of these titles, with most people feeling more comfortable to speak as equals. A good anecdote which highlights this was when cricketer Dennis Lillee met the Queen in 1972 where he greeted her with "G'day, how ya going?" This was a very Australian approach to both the language and the attitude to hierarchical society. Unsurprisingly, members of the British public thought this was a flippant and inappropriate way of addressing the monarch. One analyst wrote however, "In Dennis' mind, he was just treating the Queen as an equal. After all, it wasn't her fault she couldn't play cricket." Lillee did think highly enough of the Queen to



ask for her autograph, a request she politely declined, but later provided in private correspondence.

The purpose of using these titles such as "Sir" and "Ma'am" is a sign of respect to the individual and position. While the language does appear to serve this task, mandating that all subordinates use the title seems to somewhat defeat this purpose. There is a huge difference between an individual who uses the phrase of their own volition as opposed to one who says it because they are required to. There are some parallels to the staunch republicans who toast the Queen during mess dinners – symbolic behaviour which reflects no true personal beliefs they hold.

Recruits at *HMAS Cerberus* were predominantly born in the late 1980s through to 1990. Most of them may have never called another person "Sir" or "Ma'am" before in their lives. This means they are not using the titles out of a personal sense of respect to an individual, but because this is what they were taught to do. The claim that says the use of these titles is required to maintain respect and discipline is a false argument. Respect is earned through actions and is shown by action, not simply using titles and giving salutes. There are thousands of other organisations and leaders that function outside the Defence environment

Don't call me 'Sir'...

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without relying on this concept.

A further example of Defence requirements which is out of sync with Australian society is for formal letters. When completing this correspondence the reference (*ADFP 102*) requires that the RAN complimentary close is used: "I have the honour to be, Sir, your obedient servant." This is uncomfortable language and I submit that most individuals would not consider themselves, or indeed their subordinates to be "servants".

SUMMARY AND FUTURE

The Royal Australian Navy is a modern, professional organisation which should strive for best practice and embrace Australian values and ideals. How we are perceived both within the RAN and by the wider community is very important.

In its history the Royal Australian Navy has overcome some significant social challenges, including becoming a navy independent from England and the introduction of women at sea. These changes were required by the maturity of Australia as a nation and through societal evolution. There is an expectation that the Australian Defence Forces continues to evolve to meet the requirements and expectations of Australian people now and into the future.

The way Australians communicate with each other is one area which has seen changes over recent years and in which the RAN has failed to keep up. We now have a system based on a class model which dates back hundreds of years and there can be changes which could improve efficiency within Defence. The requirements that exist for written communication are outdated and often fail to recognise the importance of the individual.

The Royal Australian Navy has many traditions which started out

for practical purposes but have since become ceremonial, and are done as part or preserving our history. For example, bells are no longer used to mark the passage of time on a ship, yet we ring the ship's bell each morning during Colours. The use of the titles "Sir" and "Ma'am" could be put into this category, retained in formal settings, such as on parade grounds or on the bridge, but removed from normal office and workplace functioning.

As Navy workplaces evolve to include more and more civilian and contracted staff the current culture of titles based on rank will become less and less relevant. To retain and attract the best people we should seek in every way to celebrate the contribution by individual and create an environment where people feel comfortable and enjoy; this will ensure we get the best out of the next generation of sailors. 🚢



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HMS AMETHYST. SIMON THE SHIP'S CAT, AND JOHN KERANS, THE BLACK SHEEP OF THE RN

LCDR Desmond Woods discusses whether HMAS Shoalhaven might have made a difference in this strange tale from 1949

In Australia it is a little remembered fact that 60 years ago, in April 1949, the Admiralty came close to sending the RAN frigate *HMAS Shoalhaven*, then serving with the RN Far East Fleet, into an unwinnable fight with Chinese communist gunners. It was a only a wise appraisal, and timely decision, made first in Canberra by the Menzies Government and then by the Flag Officer Far East Fleet that prevented the ship's company of *Shoalhaven* from being put in mortal danger on the Yangtze River and being needlessly killed and wounded.

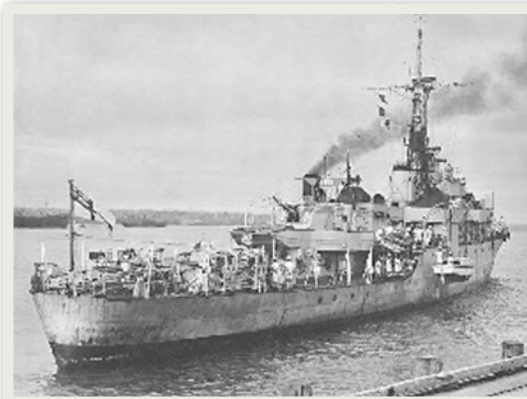
In April, 1949 as Nationalist forces were being defeated across China, Chiang Kai Chek's beleaguered government hung on to a shrinking perimeter in Nanking, two hundred miles up the Yangtze from Shanghai and the sea. Also in Nanking were many international delegations made up of diplomats who, despite their status as neutral and protected persons. Their governments feared they might need to be guarded from Communist attack. For that purpose the Royal Navy's 3rd Frigate Flotilla and 8th Destroyer Flotilla had provided a guardship at Nanking.

Quite what the guardship's function would be in the event of a Communist attack on Nanking was not made clear. Her purpose was to 'show the flag' and could only be symbolic. In theory she could provide a place of safety for diplomats and evacuate them down river. In practice this was never a likely or practical scenario. Britain was a

neutral power in the civil war wracking China and this led the Admiralty to naively believe that RN or RAN ships, well marked with white ensigns and national flags, would continue to be allowed to pass on the Yangtze 'on their lawful occasions' as they had done for a century.

Their Lordships were sadly mistaken. The Communists, who held and fortified the north bank of the great river, planned to cross it within weeks. They had no intention of allowing their waterway to be used by Chiang Kai Chek or any foreign power in support of the Nationalists, or as a neutral highway for foreign commerce. The old pre-war 'Rules of the Game' had been altered forever by the Japanese occupation and the consequent rise of the PLA. The continued existence of the old RN China Station was now a fiction rather than the reality it had been during the pre-war decades when China was effectively run by the West. Neutrality was a meaningless concept to Mao.

The destroyer *HMS Consort*, the Nanking guardship, was due to sail from Nanking on 19 April. The plan was for her relief ship to sail simultaneously upstream from Shanghai and the two ships would pass on the river. The timing of the guardships' changeover was considered critical and needed to be completed before the expected Communist crossing of the Yangtze to engage the Nationalists on the south bank. What no one in the Far East Fleet high command appreciated was that the Communists 'ever victorious army' would swiftly occupy Nanking on 24th of April. *Consort* being scheduled to sail on 19 April would mean she would be just in time to escape being trapped



HMS Amethyst

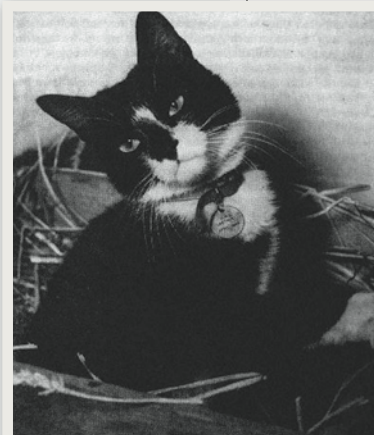
at Nanking. Her relief ship would never get there.

HMAS Shoalhaven would have been that unlucky relief ship had the Australian government not decided that she should only be used if there was a clear and definable humanitarian role for her in rescuing foreign nationals from peril. It was decided in Canberra that she was available for mercy missions, but not for guardship duties. In

practice the foreign delegations started to evacuate Nanking by road and rail as soon as it became obvious that Chiang Kai Chek's forces were unable to hold his capital, so river based mercy missions were not needed.

When the Menzies Government made known its decision not to permit *Shoalhaven* to be

Simon Amethyst's cat with Dickin medal (closeup of medal below)



HMS AMETHYST. SIMON THE SHIP'S CAT, AND JOHN KERANS, THE BLACK SHEEP OF THE RN

used solely as a Nanking guardship, the Admiralty might have reconsidered its whole position on the Yangtze. Their Lordships might have decided that if the Australian government was unprepared to hazard sailors' lives, for no achievable aim, then a prudent policy might be to bring *Consort* down the river and not to relieve her. There is no evidence that any change of policy was considered either in London or in the Far East. Instead the Flag Officer of the Far East Fleet, Vice Admiral A C G Madden, aware of the Australian reservation on *Shoalhaven's* use, decided that the next available frigate, *HMS Amethyst*, was to come out of refit in Hong Kong and under the command of Lieutenant Commander Bernard Skinner sail from Shanghai for Nanking. By now the river was the immediate front line in the civil war and was about to be crossed by the Communists to attack their enemies. For any foreign warship to venture up the river under these changed circumstances was, to say the least, a "courageous" decision. It could also be characterized as a foolhardy and pointless one.

Possible interdiction or challenge by PLA artillery was anticipated by Madden, and both *Amethyst* and *Consort* were ordered to sail in a state of readiness to meet the fast changing developments in the civil war. The ships' main armaments were to be provided with ready use ammunition in case of the need to open fire without delay and they had large Union Jacks prepared on their upper decks which could be displayed over their sides at the first sign of any trouble. As Skinner took his shallow draft frigate out into the strong currents of the Yangtze *Amethyst* started a tragic four month trial by fire from which the shell shattered ship would eventually return, but which would cost him, and the RN, his life and those of 22 of his ship's

company.

On her first night on the river *Amethyst* anchored where Chinese nationalist warships normally did so. It has been speculated that this was the initial cause of the Communist gunners mistaking her for an enemy ship. Whatever the truth, within 24 hours of her sailing from Shanghai the illusion that a declaration of British neutrality would protect the *Amethyst*, was shattered by communist small arms fire from the river bank. Thinking this was not aimed at him, but part of the regular general firing between combatants, Skinner ordered the unfurling of the Union Jacks over his sides. This made no difference to the rapid fire which was soon accompanied by artillery shells. *Amethyst* was hit hard and often and Skinner was mortally wounded on his wrecked bridge. The combination of a jammed starboard engine telegraph and an injured coxswain resulted in *Amethyst* going aground on Rose Island. Though also seriously injured Lieutenant Geoffrey Weston, the First Lieutenant, took command and ordered the after guns to return fire at the PLA batteries. Chinese shells exploded in the sick bay, the port engine room, and finally hit the generator. Weston with great coolness signaled: 'Under heavy fire. Am aground in approx position 31.10' North 119.50' East. Large number of casualties.'

The angle at which *Amethyst* went aground meant neither A or B gun mountings could be brought to bear on the PLA batteries, leaving only the twin stern mounting to return fire. 30 four inch shells were fired before the mounting was hit, knocking out one of its two guns. The remaining gun returned a few more shots until ordered by Weston to cease fire in the hope that this would cause the PLA to do likewise. The shore batteries, however, continued to fire

both medium and heavy artillery, causing more damage and casualties to the ship. Weston ordered the uninjured to prepare to repel boarders with Bren guns and rifles.

With her bow aground on Rose Island, the ship was a sitting target only some 200 yards from the communist shore batteries which continued to pound the frigate. To save lives Weston ordered the immediate evacuation of most of the crew. Everyone capable of swimming to the bank was ordered over the side, while the non-swimmers and walking wounded used the only one of the ship's boats left undamaged. 59 ratings and four Chinese mess boys made it to the Nationalist controlled southern bank, but several more were cut down in the water by PLA machine gun and artillery fire before they could reach safety. Those that survived were taken to a nearby Nationalist Army hospital, and returned to Shanghai.

Amethyst now had left onboard only 40 unwounded men, 12 wounded, and 15 dead. The shelling had stopped, but no one could move on the upper deck without drawing the attention of PLA snipers. Damage control parties plugged shell holes below the waterline with bedding. *Amethyst* had sustained 50 hits from heavy shellfire and had been repeatedly raked with machine gun fire and was full of holes. While the ship's doctor, Surgeon Lieutenant Alderton and his sick berth attendant worked at speed to treat the growing number of wounded another shell exploded nearby killing them both instantly. For the next six days Lieutenant Peter Berger, the navigator, and Weston dosed themselves on morphine and benzedrine so they could remain awake and able to treat the wounded, and prepare to defend



LCDR John Kerans

the ship against the expected boarding by the communists.

On hearing of the attack on *Amethyst* the *Consort* sailed from Nanking with seven white ensigns flying and large Union Jacks unfurled over her sides. She steamed to the rescue, with all guns' crews stood to, at 29 knots with the river current behind her, a speed never before attempted and which made her hard to keep on course. As she neared *Amethyst* she too came under heavy accurate shore fire to which she replied very effectively with rapid 4.5 inch salvoes which knocked out one shore battery. However when she slowed to prepare to pass a tow to *Amethyst* she was then hit several times. Like *Amethyst* her bridge and wheelhouse were badly damaged. Her captain was wounded and her coxswain and nine others killed. Both 4.5 inch guns were put out of action and she was forced to steer from aft, no mean feat for a ship manoeuvring at high speed in restricted water and under fire. But given *Consort's* damage and casualties, further attempts to tow *Amethyst* were out of the question and reluctantly she was forced to clear the area and pass down river. *Consort* had taken 56 direct hits and suffered not only nine killed but 30 men wounded. She had no choice but to leave *Amethyst* to her fate or suffer the same one herself.

Under cover of darkness Weston and his exhausted men floated *Amethyst* off the sandbank moved her into the middle of the river and anchored. The ship was still within artillery range but not that of small arms fire. Notwithstanding this success their situation was still desperate. They were 170 miles upstream and seven hours steaming from the fleet and safety. Between them and Shanghai were numerous PLA artillery pieces and the six inch gun batteries of the Woosan Forts past which they would



HMS Belfast in her later, present-day role as a museum ship in the Thames

have to run the gauntlet. There were critically injured men onboard and they were without a doctor or sick berth attendant. Without effective treatment Skinner had died of his wounds and Weston, now in command, was seriously injured. Supplies of medicine and dressings were ebbing swiftly, along with morale, as the ship's company stifled in the summer heat.

Madden, flying his flag in the Town class heavy cruiser *HMS London*, decided to try to extricate *Amethyst* from her deadly trap. He asked the RAF to try and get a replacement medical officer to the frigate and a Sunderland flying boat, carrying a doctor, duly departed from RAF *Kai Tak* in Hong Kong for the 800 mile flight. On its second attempt the Sunderland managed to land on the river close enough to *Amethyst* to disembark the doctor, before it had to depart in a hurry, as Communist artillery ranged on it.

Madden was determined to go to the frigate's rescue himself in his flagship and with *Black Swan* and the damaged *Consort* as his escorts. He took his three ships

from Shanghai up river with officers and a steaming party standing by to relieve *Amethyst's* exhausted ship's



HMS London

company. The plan was to escort the battered frigate back to the fleet under the protection of the guns of the big cruiser but *London* and her escorts ran into trouble very swiftly. *London* made a huge target for the communist gunners. She and her escorts came under accurate and heavy fire and although Madden blasted at the gun batteries with *London's* eight inch main armament and all ships fired their 4 inch guns they were all hit hard and often. With 23 sailors killed and 20 more wounded it became obvious to Madden that he stood to lose far more than he could possibly gain by forcing a passage to *Amethyst*. Reluctantly he took his ships back to Shanghai for

HMS AMETHYST. SIMON THE SHIP'S CAT, AND JOHN KERANS, THE BLACK SHEEP OF THE RN

repairs and to bury his dead sailors. *HMAS Shoalhaven* provided the firing party for the burial service in Hung-Jao cemetery. By now the PLA had lost 252 gunners killed in these artillery duels with the Royal Navy and were not in a forgiving frame of mind. *Amethyst* was still as far from safety as ever.

At this point a most remarkable figure enters the story. Lieutenant Commander John Simon Kerans, the assistant naval attaché in Nanking, was the only RN executive officer remotely close enough to be able to get to *Amethyst* and to take command. He was an unlikely hero. Kerans had faced one Board of Inquiry after another, with offences which included running ships aground. He had even faced a court martial for accepting bribes of wine. He had been posted to Nanking as a punishment for having become 'over refreshed' ashore in Malta on a Saturday night and deciding on Sunday morning to swim back to his battleship. He arrived in a state of dripping disorder on the quarterdeck during divine service, which the Admiral and his wife were attending, still clearly unfit for duty and missing many essential garments. Nanking was as far from the fleet as their Lordships could send him; so they did. Now the Royal Navy's pride and the survival of *Amethyst's* ship's company depended on this seaman officer and black sheep of the fleet. Comes the moment, comes the man!

Kerans knew that there would be no more costly rescue attempts from Shanghai. It was now up to him to get on board and turn *Amethyst* back into a warship capable of moving and fighting again. It is hard to imagine a more daunting leadership challenge. He bribed a sampan owner to take him down river and boarded her under cover of darkness and river mist. Then he started the process of restoring hope to traumatised men who

understandably believed themselves to be beyond salvation.

Throughout May, June and July a diplomatic game was conducted between the UK Foreign office and Mao Tse Tung in an effort to get the stricken ship released. The Communists were determined that this would not occur unless the British made a grovelling apology and confessed that they had opened fire on 19 April without provocation. This untrue statement the RN and the British government categorically refused to give. Consequently *Amethyst* became a pawn in a geopolitical seismic shift in world affairs as the PLA triumphed over all its Nationalist enemies and Mao proclaimed the People's Republic of China.

Conditions onboard the cramped frigate deteriorated further in the heat and airless humidity of high summer. The ship's systems were seriously damaged by shellfire and short of the ability to make fresh water. The gyro compass was beyond repair. Fuel for generators was getting low and food was rationed. Rats, and the risk of disease they brought, were increasing rapidly and the physical condition of the ship's company was diminishing along with morale. But the ship's cat, Simon, despite being seriously injured by shell splinters and burns, not only recovered from his wounds but took on the rat population including the fattest and most fearless rat on board, named, inevitably, Mao Tse Tung, and slew him in single combat. He then put himself down for duty to protect the ship's dwindling food stores from all rodents.

With the Foreign Office having failed to win permission for the ship to move down river it became obvious to Kerans that he and his men had no alternative but to break out before they lost the ability to do so. With the encouragement and blessing of the

acting C-in-C Far East Fleet, Admiral Brind, Kerans decided to risk all and make a run for it on the moonless night of 30 July. This was the ship's 101st day of captivity. Timing was all important. The river was as high as it was going to get and

as the river charts in the wheelhouse had been destroyed in the attack on the bridge it was essential that the dangerous shoals and sandbanks were well covered with water. Kerans would be sailing in darkness and at speed through treacherous waters he had never navigated before and without a river pilot.

Kerans' yeoman managed to get a rudimentary homemade encrypted signal off to Admiral Brind alerting him to his intention and asking for all possible support on the morning of 31 July abreast of the guns of the Woosan Forts. The faithful *Concord* duly moved up river to give *Amethyst* covering fire if she was attacked. All other frigates in the flotilla prepared to go up river and fight it out with the PLA batteries if necessary. RAF Sunderlands were on standby to pick up any survivors if *Amethyst* was sunk or had to be scuttled on her seven hour, 100 mile dash to the open sea and safety.

At sunset on 30 July Kerans manned his B gun mounting, the only one with ammunition. There were not enough fit hands on board to man the other two mountings and 4 inch ammunition was limited after the expenditure of shells. Almost as soon as she moved the ship came under fire and was hit. It seemed to the anxious Admiral Brind



Chiang Kai Shek

and his staff waiting aboard *HMS Belfast* monitoring Keran's signals that courage and a stiff upper lip were not going to be enough to save the situation. But the hit was not serious and *Amethyst* worked up her boilers to maximum power and moved out of range. With the river running in flood behind him, steaming at 22 knots with no charts, no compass, no moon and little fuel *Amethyst* surged down the river. It was an act of desperate bravery and reckless faith made necessary by an acute lack of alternatives. Kerans the 'black sheep' of the fleet was proving to be the 'man of the match.'

As he neared the halfway point and was approaching the six inch guns of the Woosan Forts, Kerans sent a two word flash signal in clear to *Concord* somewhere downriver from him. It was a masterpiece of brevity; it simply read, 'Come quick' Kerans' close friend, Commander Rodney in *Concord*, had anticipated him and was waiting for him in the pre dawn darkness with a welcoming smoke screen into which Kerans steamed *Amethyst* at speed while she too made smoke. As the sun rose illuminating the forts both ships passed them unchallenged. 'Fancy meeting you again' signalled Rodney; to which Kerans signalled by light 'Never, never has a ship been more welcome'. Kerans then made the signal to Admiral Brind which was splashed across newspapers in Britain and America and which made him a household name – 'Have rejoined the Fleet south of Woo Sung. No damage or casualties. God save the King'.

King George VI on hearing of the escape of one of his smallest ships signalled: 'Please convey to the commanding officer and ship's company of *HMS Amethyst* my hearty congratulations on their daring exploit to rejoin the Fleet. The courage, skill and determination shown by all on board have my highest commendation. Splice

the mainbrace. George R"

Once his story was known Simon, the ship's cat, became an instant celebrity and was awarded the Dickin Medal, which is the British serving animal's equivalent of the VC. Despite a difficult start to their relationship Simon and his new CO had come to appreciate each other's importance to the ship and it was Kerans who wrote the bravery citation and put Simon up for his medal. Once the award was made known thousands of letters were written to Simon, so many that one of *Amethyst's* officers was detailed solely to answer Simon's post. Sadly he died while under quarantine in UK due to an infection from his war wounds. His funeral was attended by hundreds including *Amethyst's* ship's company. In 1993 Simon's Dickin medal was auctioned for \$US32,000 and is now displayed in the Imperial War Museum.

HMS Amethyst was repaired and refitted and returned to duty and saw action off Korea. She played herself in the film version of her 1949 escape before she was scrapped in 1956. John Kerans was promoted to Commander and awarded the Distinguished Service Order. However given his chequered early career he was clearly not destined for a glittering career as a senior officer. After being eased out of the Navy he became a British conservative MP and died in 1985 aged 70. It was Lieutenant Peter Berger, the intrepid navigator, who went on to be a Vice Admiral.

It is only possible to speculate on the possible political ramifications that might have flowed in Australia's relationship with Britain had the Menzies government permitted *Shoalhaven* to attempt to become the last Nanking guardship. Had that happened and had 22 RAN lives been lost to PLA shellfire the disaster might easily have been widely interpreted by



Artists impression of *HMS Amethyst*

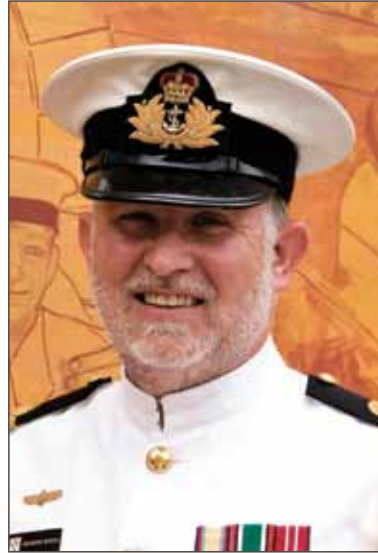
Australians as the British government once again losing young servicemen's lives with the same nonchalance allegedly shown throughout both world wars. Memories of Gallipoli were still fresh and the recent Singapore debacle a matter of deep division and bitterness. The passionate enthusiasm with which the young Queen was greeted on her tour of Australia in 1954 confirms that most Australians in that era were still intensely loyal to the British crown. Notwithstanding this undoubted affection for the person of the sovereign, dead Australian sailors would have been a potent cause for anger directed by the Australian government and people at the British government.

Menzies' decision to restrict *Shoalhaven's* use was not only strategically correct but also politically astute. He set aside his anglophile instincts in denying his permission for the RAN to be placed in harm's way. 'Pig Iron Bob' might have found himself at the centre of national fury if he had not acted to protect *Shoalhaven* and her men from predictable disaster with unknowable consequences for his career.

If it is impossible now to assess the long term political consequences of an Australian frigate being shelled or sunk on a Chinese river 60 years ago one can reasonably assert that if it had been not *Amethyst* but *Shoalhaven* that made her daring escape down the Yangtze the event would still be well remembered in Australia, taught in

HMS AMETHYST. SIMON THE SHIP'S CAT, AND JOHN KERANS, THE BLACK SHEEP OF THE RN

school history classes and celebrated every year in all RAN messes. The extraordinary events that unfolded on the Yangtze, as the PRC was being born in the summer of 1949, can be fairly considered to have resulted in a very lucky escape for *Amethyst* and the RN and also indirectly for *Shoalhaven*, the RAN and Australia. 🚢



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HONOUR: FUNDAMENTAL NAVY VALUE

BY LIEUTENANT COMMANDER RICHARD ADAMS

This article takes up points arising from a contribution by CMDR Mullan; 'What's Wrong With the Navy's Values?' (Headmark March 09, pp. 5-8).

CMDR Mullan cites Plan Green, asserting 'reputation management... seems to be an important reason for the RAN's values program with the perceptions of serving members and the public as to how the RAN treats its personnel seen as very important for recruiting and retention'.

Taking this point further, the 'RAN's existing values program (is observed to be) essentially focussed inwards, towards its members and how they treat each other and behave within the organisation'. Such a narrow focus, uninformed by the importance of ethical perception on operations, is identified as a failing typical of military 'values sets'.

Critical of the RAN values programme for the dearth of an 'important focus outwards,' CMDR Mullan makes an important point, observing that Navy has legal capacity to enact disciplined violence at direction of the State. The presumption that such capacity entails an obligation for developed ethical thinking highlights a responsibility Navy fails conspicuously to acknowledge.

CMDR MULLAN ARGUES:

The RAN has no explicit values dealing with these issues, nor does it mention these (issues) within existing values descriptors. Given the great responsibility the Australian people see fit to bestow upon members of the RAN, ignoring this fundamental requirement in the Navy's organisational values is potentially very dangerous and does not produce values

that clearly explain a core part of what the RAN stands for.

The imperative for military operations to be supported by powerful ethical thinking is underlined by reference to the massive failure which was Abu Ghraib – an atrocity, which has brought about 'a significant upheaval' in the way US soldiers are 'morally and ethically prepared for combat'.

Correctly, CMDR Mullan argues that this sort of dreadfulness should have provoked RAN values to be rewritten. The published values are a logical hoax, the philosophically frail contrivance of reputation management, far from professional military scholarship and very far from valuable as the keystone of ethical service on operations.

Among the least convincing of Navy values, CMDR Mullan identifies 'honour' as a 'semi-coherent' 'noble ideal'. He believes 'the RAN would be better served by removing honour as a discrete value...and 'replacing it with another, more practical and understandable value'.

Leaving aside the rest of CMDR Mullan's constructive commentary, I take issue on this point. Though I agree that honour, as it is presently defined by the Navy, is a philosophical muddle concerned more with public relations mileage and reputation than with conduct befitting the profession of arms, I disagree that honour should be displaced.

I disagree particularly with reasoning that honour should be replaced with 'another more practical and understandable value'. CMDR Mullan objects to the nebulous nature of honour. Yet, this objection is unsound. Values, by their nature are ideal, nebulous and unformulated.



Captain Von Muller of the Emden

Rules, in contrast, are operative, enforceable and much beloved by the coxswains. Though Navy has more than enough rules, they are neither more nor less practical than values. Rules and values are different, serving distinct albeit compatible purposes.

Navy does not need to cast honour aside. Rather, Navy needs to define honour – which is entirely precious as a value - with precision. Properly defined, honour is core to military professionalism, illuminating right conduct within the Service, and by the

SMS Emden aground



HONOUR: FUNDAMENTAL NAVY VALUE

Service in engagement with the nation and global community. The Service has esteemed honour since its inception. Equally, honour has been long-recognised as central to the western military ethos.

The 1922, Royal Australian Navy Lectures Suitable for Junior Officers and Petty Officers considered honour 'based on our own self-respect and esteem. Honour (asserted the Lecture) comes to us through our conscience.' Such notions are elemental to military service, which Clausewitz considered 'a special calling (which) if it is to be followed with success requires peculiar qualifications of understanding and soul.' Writing in 1832 in address of 'the Genius for War,' Clausewitz put across the 'noble' spirit of martial honour, which endures today.

Clausewitz lamented that honour was depreciated by unworthy association with greediness for renown or glory. He understood the sense of something noble and aspirational; a staunchness of will and moral purpose driven by an intricate fusion of individual character and professional acumen. Framed by tradition, bound by shared understanding, such a sense of honour conveys what is worthy or discreditable. So it is, the 1922 Lecture holds we 'are in honour bound to do a certain thing.'

Failing to appreciate the intricacy of the construct, CMDR Mullan has argued for honour to be discarded – particularly because he perceives a nebulous concept, which affords no basis upon which the Service may relate professionally to the global community.

But this is to miss the point. Honour articulates the moral meaning of Service, connecting to situations in a way explicit rules cannot; informing integrity, shaping conscience and influencing notions of pride and self-respect and shame.

Honour is thus a concept of moral complexity and insight. A long way from the 'suspect professional virtue,' which inspires effervescent courage; honour demands technical judgement and personal resolution. For this reason, honour operates to avert unrepressed fighting which, no matter how valiant, will entail nothing but shame, 'a feeling of inward humiliation.'

Contra the argument of CMDR Mullan therefore, honour appears entirely meaningful. Acknowledging that military capability may give rise to pure violence, employed viciously for evil ends; honour invokes a professional ideal, which demands more than skill in technical war-fighting. Honour includes living and fighting according to culturally embodied principles. Thus, whoever fails intrinsic standards of practical accomplishment and personal character is devoid of honour.

As military professionals, we should not underestimate the virtue of physical courage and toughness. Neither should we trivialise war as a sort of overworked moral theatre. We should nevertheless, understand the frailty of morally insensible skill, and the menace of untrammelled ferocity without honour. The profession of arms demands recognition of the:

Reflective understanding one finds again and again in letters and war memoirs...the sense that the enemy soldier, though his war may well be criminal, is nevertheless as blameless as oneself...a poor sod, just like me, trapped in a war (he) didn't make. My moral equal.

Honour is thus quite different from



MIDN Hammond receives the RAN College Sword in 1964

distorted militarism, which lionizes unrestrained fighting and unmindful physical courage. Subtly and profoundly, honour is an engine of professional self-possession. Honour is not, as CMDR Mullan would have it, 'a noble ideal but not a useful value.' Rather, honour enables the profession of arms to engage the world with integrity; in peace and in war.

Of equal significance, honour entails awareness of professional qualities which, being internal to the profession of arms, differ from expectations within civilian society. As Osiel notes:

The individual is free to choose, of course, whether or not to seek membership of his country's (armed forces). But he is not free to decide what it means to be a professional (serviceman), much less an excellent one. The meaning of meritorious (service) is determined by the practices and traditions of the professional community.

The relevance of honour as a keystone of armed service is amplified by Osiel's acknowledgement of tradition. Capturing the inherited cultural legacy of western arms, honour adds depth to notions of professional community bound by a shared ethical sense, rather than national borders. The perspective is significant, and underlined by foundational experience of the Royal Australian Navy.

Recalling his capture after the epic 9th November, 1914 battle between *HMAS Sydney* and *SMS Emden*, Franz Joseph, Prince of Hohenzollern remarked:

(We received) an order from the War Office by which the King of England returned to us officers and subordinate officers our swords. This was in so far meaningless, as we had no swords with us, but doubtless the order was intended as an honour for the *Emden*, and as such it greatly pleased us.

(Later, transferred as prisoners to the) Hampshire, we were received by Captain Grant, the captain of the cruiser, with great cordiality. It was noticeable at once that we

were among members of our own profession. Wireless messages were coming in daily about the war, which contained fascinating news for us. Thanks to the kindness and chivalry of Captain Grant, we were given the messages to read....

Underlining the point, the London Daily Chronicle and the Daily News observed:

Captain (von Muller of the *Emden*) proved himself to be not only a brave and capable officer, but to possess chivalry in his treatment of the passengers and crews of the captured ships. The English nation has now only one regret, and that is that a great part of the *Emden's* ship's company lost their lives.

Recalling *Sydney's* victory over *Emden*, saturated by chivalry, redolent with the principled timbre of a fair fight, we observe the first triumph of the infant Australian Navy. The remembrance is significant; confirming the honourable foundation of the Navy, just as the present fruition of terrorism defies concepts of professional honour, which have formerly been taken for granted.

'Pitted against adversaries who fight without any rules or restraints (who) employ methods that are rightfully viewed as horrific and appalling by the rest of the civilised world,' we are dismayed by a type of conflict we understand as dirty. Understandably we conjure ways to bring the full force of western arms to bear. Understandably, we lament what appears to be timidity, excessive caution and unwarranted regard for the cultural sites and civilian population of a notorious deceitful adversary. Yet it would be dishonourable, 'a violation of our own values for us to engage in a war with no rules,' with sense neither of honour or shame, nor of gallantry or heroism.

Heroes, not ruthless fanatics, bequeath the western sense of honour.

The virtue remains fundamental to western arms and to the Royal Australian Navy; very far removed from the oblivion to which CMDR Mullan would consign it.

Recollection of the past is evocative and meaningful, underlining the western honourable ideal; an inherited appreciation of 'the moral world,' understood to be sufficiently intact that we can 'still be said to share it with our ancestors.' The sense is that we learn 'how to act among our contemporaries by studying the actions of those who have preceded us. (Our forebears) give stability and coherence to our moral lives – and to our military lives. Notions about right and wrong are remarkably persistent.' In other words, our recognition of honour now is informed and enriched by the traditions of honour we have inherited.

The tradition is a living one; an appreciation of an indistinguishable 'constellation of independent and non-specific virtues,' which have particular relevance in the context of military service. Moral virtue intermingles with physical virtuosity, in a construct of martial honour, which demands 'considerable sustained effort,' and which encourages pride in practised talent and professional judgement.

Honour connects morally to situations in a way explicit rules cannot. Honour informs integrity, shaping conscience and influencing notions of pride, self-respect and shame. Thus, honour operates as a more authoritative construct than notions of legality, identifying 'the proper course,' when regulations or laws offer uncertain guidance. Clausewitz described 'military virtue' which transcended the 'vanity of an army held together merely by the glue of service-regulations and a drill book.'

Such a sense of honour is not an explicit term capable of definition in precise language, yet it is a powerful

expression enabling us to articulate the moral meaning of Service life. As we observe the moral riddle of terrorism, let us be reminded that the conduct of men and women in uniform defines the moral legitimacy of our Nation, and the moral footing of killing and dying in defence of our way of life. So it is that Australia aspires to be recognised as, a 'force for good and an agent of progress,' in Afghanistan where 'military operations will not in themselves, rebuild...a stable and dependable country.'

Honour is thus so very much more than a superfluous ideal, out of place amidst indiscriminate barbarism, which has defined the global war on terror. The term is applicable, because the terrorist offensive is not an assault upon states but upon the collective ideals and principles underpinning western civilisation.

We may well remember the words of Stephen King-Hall who, writing in 1941, held that, 'it is our destiny to save Western civilisation both by our efforts and our example,' not by mere brutality. ✎

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Talent Management – An organisational analysis

BY LIEUTENANT MARK WILSON

It is unambiguously stated in the INCA FAQ sheet that 'The Navy is presently facing the most serious training personnel shortfall since the early 1950's'¹ (DGNPT website). The current Plan Blue also paints a sobering picture declaring that:

'The future Navy faces increasing competition from the private and public sectors for a decreasing number of skilled and talented young people. Navy must be considered as an employer of choice to recruit and retain talented people in the future.'²

These statements illustrate that today's organisational milieu is considerably more challenging than it has ever been. Forecasting this development, Sparrow et al affirmed that, 'The world is becoming far more competitive and volatile than ever before'³. A significant realisation of this development lies in the diminishing pool of adequately skilled personnel. This contention is based upon several factors, most notably: a rapidly aging workforce, the need for an increasingly technological skill-set, and an increasingly mobile, diverse workforce. Faced with these contingencies, the Navy has recently embarked upon a

selection of strategies in an attempt to arrest the decline in its workforce. These include strategies such as: (the list is not exhaustive) Multi-crewing, Mentoring, Sea-change, the Defence Home Owner's Allowance Scheme (DHOAS), a revised superannuation plan (post MSBS), the Graded Officers' Pay Scale (GOPS), the Navy Capability Allowance (NCA) and eventually - the Graded Other Ranks Pay Scale (GORPS).

Reflective of these challenging times the recent literature is abuzz with the latest HR strategy - 'Talent Management.' Claims that the '...rules for managing people are dramatically changing,'⁴ and that 'For many organizations, it has become a strategic imperative'⁵ are replete, particularly amongst the respective HR journals. A discussion with a work colleague regarding the subject highlighted a sobering perspective, one that the more this writer pondered, the greater its significance appeared. In answer to "Do you think we talent manage?" my colleague stated, "We don't manage talent, we prepare them for their next job [elsewhere]!" On a simplistic level, this exchange illustrated an

organisational dilemma: if adequate support and training is not provided, the talent will go - on the other hand, if these facilities are provided the talent may still go... Clearly the resolution of this paradox, in collusion with many other related issues - pose significant challenges to today's Navy.

Whilst it is acknowledged that the Navy has employed a selection of retention strategies to maintain capability, this essay's primary focus will be on talent management as an additional stratagem. Reflective of the relatively recent developments regarding talent management, research for this essay was sourced significantly from a selection of relevant peer reviewed journals and to a lesser extent , academically researched texts (due to the lack of available material). In seeking to answer key questions regarding talent management, this article approached the topic in a considered and pragmatic fashion, with an eye to separating rational conclusion from corporate hyperbole, but foregrounding talent management as a potential strategy that may be employed by the Navy's career and personnel management systems.

*People join up not just to serve their country but also to see the world - HMAS SYDNEY departs Sydney harbour for a world cruise.
Photo by Chris Sattler*



WHAT IS TALENT MANAGEMENT?

According to the literature, the term 'Talent Management' (TM) enjoys a broad interpretation, particularly with regard to its implications for HR. Meisinger suggests that HR leaders '...need a deep understanding of the labour pool's evolving knowledge base in order to recruit, acquire, develop and retain high potential, high-performing talent'⁶. Similarly, Oakes identifies this function as the '...bringing together - in a unified technology platform - the functions of recruitment, selection and assessment, learning and development management, workforce planning, compensation and (insert other HR related functions here)'⁷. Somewhat more usefully, Oakes refines this definition to three particular elements, the ability to '...attain, train, and retain a workforce'⁸.

As a consequence of the challenges currently faced by employers, the oft-heard mantra 'people are our greatest asset' currently appears to enjoy greater resonance. 'The rhetoric has become reality: An organization's success is directly linked to the talent it employs'⁹. Consequently, the strategic involvement of HR has increased commensurately. Pfeffer articulates this belief, concluding that, 'People and how we manage them are becoming more important because many other sources of competitive success are less powerful than they once were'¹⁰. The value of talent is clearly perceived as critical to the bottom line. 'Companies are dependent on their top performers to innovate and provide services that differentiate them from their fierce competitors. They're reliant on their human assets to thrive'¹¹. On a more tangible level, the cost benefits of talent retention appear substantial. As is clearly stated by Ellet, 'Holding on to your most talented and hardworking people translates directly into cost

savings and competitive advantages'¹².

TM appears to be a strategically determined function, which has shifted HR from its traditional base of 'Training and development,' towards more holistic considerations such as '...organization development and career development'¹³. Ashton & Morton concur with this view stating that 'TM is a strategic and holistic approach to HR...a new route to organisational effectiveness'¹⁴. To narrow this definition into something more substantial, Ashton & Morton have devised that TM falls into five key component's¹⁵, they are listed and described as follows:

- a. Ethos – the creation of 'talent mindset' culture, supporting the belief that everyone has potential.
- b. Focus – the identification of particular jobs that are key to the organisation's success, and to ensure that the right people fill these jobs at the right time.
- c. Positioning – the championing of the TM ethos from the top down, to make this a management, not an HR initiative.
- d. Structure – creating policy and processes to ensure a rigorous application (accountability).

System – 'facilitating a long-term and holistic approach to generate change.'

A cursory look at the previous chapters may give the appearance of corporatese, HR doublespeak designed to enthruse the converted and bemuse the cynical. However, strip away the undeniable emphasis on 'competitive advantage,' and other bottom line oriented material -there is considerable commonality. In particular, the recruitment and retention of personnel in today's climate as a challenge faced

by any employer, irrespective of its origin.

WHY SHOULD THE NAVY EMBRACE TM?

As a system based as it is on a meritocratic model, it could be argued that the Navy already utilises TM as a matter of course, by virtue of its regular and rigorously conducted personnel assessments (SPARS, NOPARS and their precursor's). The RPL process is another example of the organisation's flexible approach to the recognition of experience as well as more formalised qualifications. Other notable strategies such as the Officer mentoring and the Defence Assisted Study Scheme (DASS) also contribute to professional and personal development. As worthy as these approaches are, these example's work within the rigid constraints of the policies contained particularly within ABR 10 and ABR 6289 respectively. The identified constraints regard the promotional arrangements for career advancement and recruitment. The following examples are illustrative of the limitations of the current policy:

a. Sailor career progression -

Irrespective of a sailor's performance (or experience) through the ranks, he or she cannot be accelerated for promotion beyond 12 months between the ranks of PO, CPO and WO.

b. Officer career progression -

For the officers, there is no facility for accelerated promotion in their promotional continuum, beyond the rank attained on entry.

c. Sailor recruitment -

Irrespective of an applicant's curriculum vitae, or work experience there is no capacity to engage a recruit beyond the base rank of Seaman. Additionally, he or she may

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not be accelerated through the ranks beyond the existing guidelines.

The experience gained within each rank is undoubtedly the rationale for the first two previously stated limitations. But is this consideration necessarily the true measure of an individual's ability to perform at the next rank? Yes, to a significant extent this requirement coupled with a track history of performance appears to be a reasonable criterion, particularly from an organisational perspective – as it provides a measure of capacity on the part of the individual. However, this linear progression has no capacity or flexibility to recognise an individual's ability beyond these constraints. This apparent intransigence is likely to stymie an individual's ambitions and as such may be exacerbating the rate of separations.

The latter example (Para 9, Sub-Para c.) regarding sailor recruitment beyond the base rank of seaman, coupled with no opportunity for accelerated promotion is also considered as an impediment to attracting potential recruits. This model is considered ideal when recruiting from school age – however, anecdotal evidence suggests that the age demographic of recruits has increased exponentially over the previous decade. Presumably many of these members will have had previous jobs or careers prior to joining. Whilst tertiary qualified members may be readily identified for commission, what of the remainder? For example, a member joins the Navy as a cook. He was an experienced chef with 10 years experience in possession of an Advanced Diploma of Hospitality (Management). Whilst his skills and experience will probably assist in his progress through the ranks, his full potential may not be maximised for an extended period.

The above examples are intended to demonstrate perceived inefficiencies



within the existing recruitment and career progression policies. These are considered emblematic of an inflexible approach to TM. Although these examples are specific, TM is not limited to these particular topics. As alluded to previously, TM is a holistic approach intended to act as an overarching philosophy, not a prescriptive set of instructions. Equally, it is not meant as a wholesale approach that treats everyone as 'talent', this unrealistic approach would essentially negate any perceived value. As stated by Ingham '...an organization's relationship with its talented employees needs to be fundamentally different from that of other employees'¹⁶. This consideration would represent a seismic shift in the organisation's existing approach to TM, which realistically could prove challenging to successfully implement.

HOW CAN ORGANISATIONS MANAGE THE TALENT WITHIN THEM?

The Navy Strategy – Charting the course to 2025 draws emphasise to the 'Changing societal expectations about the nature of work'¹⁷. One of

the proposed solutions stated later within this same document signals the intention to '...apply best practice in personnel management ... [by using] innovative ways of matching people with jobs'¹⁸. Its method of implementation is considered key as TM in this guise is particularly innovative.

Three key strategies

The following three key strategies are proposed to resolve many of the issues raised previously within this essay. For the purposes of brevity and their broadly contextualised utility, they will set out what is considered the most significant aspects of these strategies according to the available literature. They are grouped into three key areas: recruitment, performance development, and career planning. For information, these headings were derived from an article by Rands¹⁹.

RECRUITMENT

The necessity for an organisation to be perceived as an employer of choice appears crucial in attracting high calibre employees. Rands refers to this exigency in reference to ideal

*Finding and keeping
highly skilled people
- HMAS Newcastle
berthing recently
at Garden Island,
Sydney.
Photo by Tim Pruyn*

recruitment, stating that ‘...employer of choice is what most organisations aspire to achieve’²⁰. Ingham regards an employer of choice as one that has ‘...developed and promoted itself in such a way that...its talent would never want to look anywhere else (perhaps only to add a bit more variety to their career)’²¹ (2006, p. 20). The importance of gaining such regard is acknowledged within the Navy Strategy - Charting the course to 2025, ‘[the] Navy will address shortcomings in some employer of choice characteristics and project positive images’²². Today’s diverse and talented workers are more discriminating in their employment choices, many of these same individuals have yet to experience a different economic environment...

PERFORMANCE AND DEVELOPMENT

Once recruited, the talent needs to be identified and subsequently developed. Scheduled, individualised appraisals of performance may assist in identifying talent amongst the employees. The utilisation of Key Performance Indicators (KPIs) may provide a useful association with the appraisal process, particularly when measuring performance outcomes. KPIs are described as ‘...quantifiable, specific measures of an organization’s performance’²³. To assure rigour in the assessment process, Walker recommends that assessments should ‘...consider performance in multiple assignments in different contexts’²⁴. This is asserted to distinguish talent more effectively, with a view to identifying and developing potential. The existing appraisal processes within Navy are ideally structured to make these determinations, it is the context that would alter.

The development of talent appears pivotal to its retention within the

organisation. Ingham suggests that recognition of the talent’s potential, and their increased involvement in higher level, strategic functions is a worthy approach. ‘It’s...important that those assessed as talent are assigned to (and can contribute towards) high-value ... roles’²⁵. This belief is echoed by Kaye’s research regarding ‘What keeps them’. She states that ‘...dollars don’t drive retention. Exciting work and challenge continue to be the leading factors for engaging and retaining talent’²⁶.

CAREER PLANNING

Not all talent is destined - nor necessarily wishes to be the CN. Equally, it seems reasonable to assert that there is talent throughout this organisation’s structure, in many different careers and at many different levels. Rands discusses the presence of careers beyond the typically hierarchical model, suggesting that there are many different definitions ‘...within the organisation: the career manager, the career expert, the career salesmen, the career customer service person, the career courier’²⁷. An effective career-planning model, cognisant of this notion, appears best placed to capitalise on the specific goals of the individual. For example, the career Subject Matter Expert (SME) possesses significant corporate knowledge, otherwise described by Aiman-Smith et al, citing Leonard & Swap as ‘deep smarts’²⁸. These deep smarts are discussed as ‘...the experience based store of tacit and explicit knowledge that allows people to understand issues, put together patterns, and come to correct conclusions with startling swiftness’²⁹. Needless to say, the loss of this corporate memory has a net cost to efficiency and/or effectiveness.

Talent Management can be promoted as a distinctive strategy

that may be employed to assist in combating the issues of recruitment and retention. The recruitment and retention of personnel represents a challenge today as it will be for the foreseeable future for all employers. The unique and appreciably more demanding conditions of employment within the Navy serve to exacerbate the dilemma. That it suffers greater attrition rates compared to the other two services is further evidence of its magnitude. Talent management is intended not as a panacea, but as part of the overall strategy to attract and retain personnel to and within the organisation. The creation of a ‘talent mindset’ culture - that has at its core the belief in the opportunity for everyone to realise their ambitions in a less predictable, but entirely merited manner is considered an efficient and effective way of managing the talented. The Navy’s existing career and personnel management systems are tried and tested, and are at the vanguard of HRM practice. With an eye to continuous improvement of these practices, TM is put forward as a complimentary device intended to assist in these endeavours. 🦋



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HMAS Ballarat and HMAS Sydney conduct a Towing Exercise (TOWEX) in the Mediterranean Sea



CUMULATIVE HAZARD RISK MODELLING FOR NAVAL PLATFORMS

BY LIEUTENANT DAMON CRAIG

*Knowing is not enough; we must apply.
Willing is not enough; we must do.*

Goethe (1749–1832)

For the last decade the Australian Defence Force and in particular the Royal Australian Navy has had to come to terms with and embraced quantifying Hazard and Risk in its workings¹. This has been formalised in the Navy Technical Regulation Framework and associated documentation ABR 6492. These documents are a subset of the ADF regulatory regime and safety management doctrine. Technical Regulation is based on controlling risks to fitness for service, safety of personnel, and environmental compliance, which occur during design, construction and maintenance of ADF maritime materiel².

There are a variety of tools to assess and manage risk, from simple checklists to more elaborate spreadsheets and web based application³. However, there does not exist a methodology within the fleet to approach and manage risk in a cumulative model to assess the current risk being accepted by the use of a platform.

This paper discusses how risk is assessed and reported, and proposes a number of Cumulative Hazard Risk models to account for the overall risk of operating a platform with those hazards remaining. The fundamentals of Navy Hazard Risk Assessment (HRA) are a useful addition to the content of the paper.

HAZARD ASSESSMENT

A Hazard is defined as a source of potential harm or a situation with potential to cause loss that will have an impact upon mission and outcomes⁴.



Whereby the organisation, in this case delegated by Command, must evaluate all activities conducted by with a view to both finding and reducing hazards. Whilst the process of assessing the Hazard is detailed under the Navy Technical Regulation Framework, the ethos to drive the process is contained within Safety Systems policy with an aim to a safe culture⁵. This process relies heavily on experience of the organisation to identify and treat hazards and can become subjective given the differing backgrounds and experience of members of the team⁶.

RISK ASSESSMENT

A risk is the chance of some event occurring that will have an impact upon mission and outcomes. It can be quantified in terms of likelihood and consequences⁷. It in effect becomes a

mathematical or statistical approach. Even though this process is founded in science, it can become an art form in making a valued assessment of probability⁸.

THE HAZARD RISK INDEX

This processes outlined above have been combined and formalised into the Hazard Risk Index (HRI). On evaluation of the Severity and Likelihood, an index from 1-20 can be assigned to the situation to allow better overall assessment and handling of the hazard. This Index is used in the allocation of a priority of a technical defect otherwise known as the URDEF process⁹. It can also be used to assess the safety of a variety of evolutions and activities. The HRI can be assigned to a number of standard evolutions to create Standing Risk Profiles. These

*Rifles in public
but a minimal
risk - RAN Royal
Guard members
relax before parade
- photo by Glenn
Crouch*

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profiles are evaluated for a series of known environmental influences and adjust for variations from the normal.

A HRA that results in a HRI of 10 implies that there is a remote risk of a critical hazard. This gives a resultant index of the danger of the outcomes as 50% of the available indexed scale.

COMBINED PROBABILITY

Combined probability is the net result expressing the chance of all of a series of related outcomes being achieved and can be expressed as follows: (Where P is the probability of risk or event occurring)

$$\{Eq.A\} P_{Total} = P1 \times P2 \times P3 \times P4 \times P5 \dots \times Pn$$

CUMULATIVE PROBABILITY

Cumulative probability is the net result expressing the chance of any one of a set of independant outcomes being achieved and can be expressed as follows

$$\{Eq.B\} P_{Total} = P1 + P2 + P3 + P4 + P5 \dots + Pn$$

METHOD

Further sections of this essay will propose some models for accounting for a Cumulative Hazard Risk associated to operating a platform given a series of known and generally unrelated Hazards already accepted for the Ship. The methodology for the calculation of each risk will be accepted as correct in order to make a valued comparison of the cumulative model. The models will also, to avoid length calculations, group the HRA to an associated URDEF priority as detailed in ABR 5230, thus taking the 20 levels of HRA to 4 levels of priority. To assist the modelling, 'Priority 1 Safety' defects will have a greater weight than the 'Priority 1 Operation' defects. It also currently will not look at 'Priority 4' defects given that some ships may have over 500 of these for inclusion

in a work package or maintenance schedule ¹⁰.

The following scenario will be used to assess the Cumulative Hazard Risk models.

The Ship has a base line of 30 outstanding HRA;

Of these, there are 20 'Priority 2' defects with a HRA of 6,7,8 or 9;

The remainder are 'Priority 3' defects with a HRA of 10-17; and

Some 'Priority 1' defects with a HRA of 1-5 will be introduced to evaluate the model

PROPOSED MODELS

Additive model

A simple model for Cumulative Hazard Risk is to add all the HRA. This is a quick and effective method of evaluating the amount of risk on board. However it does not account for the severity of each component HRA. The Resultant HRA for this model would be

$$\{Eq.1\} \text{Sum (priority x number of defects)} = (0 \times 1) + (20 \times 2) + (10 \times 3) = 70$$

When a 'Priority 1 defect' is added to the model, very little is to be gained from the result and it does not allow for a greater picture of the platforms Cumulative Hazard Risk. The intent of Australian Fleet General Orders and of current maintenance philosophy is that the ship will proceed or remain alongside with a 'Priority 1 Safety' defect or be unable to continue operations with a 'Priority 1 Operation' defect:

$$\{Eq.2\} \text{Sum (priority x number of defects)} = (1 \times 1) + (20 \times 2) + (10 \times 3) = 71$$



Risk management mitigated by training - an NH90 Cockpit Simulator 1

This additive model also does not respond to the weighting of an operational or Safety defect as follows:

$$\{Eq.3\} \text{Sum (priority x number of defects)} = (1 \times 1.5) + (20 \times 2) + (10 \times 3) = 71.5$$

Averaging model

As the previous model does not respond well the addition of high priority defects nor does it give a useful result to command another model needs to be proposed. The way ahead is to look at taking an average of the HRA /defect priority. This is still a quick and effective method of evaluating the amount of risk on board. The Resultant HRA for this model would be:

$$\{Eq.4\} \{ \text{Sum (priority x no. of defects)} \} / \text{total defects} = 70/30 = 2.33$$

When a 'Priority 1 defect' is added to the model, again very little value is added by the result to and no better view of the Platforms fitness for service is gained as shown:

$$\{Eq.5\} \{ \text{Sum (priority x no. of defects)} \} / \text{total defects} = 71/31 = 2.29$$

This additive model also does not respond to the weighting of an operational or Safety defect, and actually gives a false impression that the ship is now safer as detailed:

$$\{Eq.6\} \{ \text{Sum (priority x no. of defects)} \} / \text{total defects} = 71.5/31 = 2.30$$

Generally, this model has improved the understanding of the associated risk to the platform, but still remains unresponsive to high priority defects.

Averaging model with adjustment for high priority defect

In order to account for high priority defects/risks, the above model is to be adjusted directly to account for the presence of this defect. The Resultant model can be expressed as follows:
{Eq.7} $\{Average\ Priority\ x\ (20/4)\} - (Pri\ 1\ Safe\ x\ 2) - (Pri\ 1\ Ops\ x\ 1)$

It must be noted that this model takes the average priority and converts it back to a simplified HRA using the factor '20/4'. It also accounts for the intent of operational policy to force a ship alongside with a safety related high priority defect. The resultant HRA is as follows:
{Eq.8} $\{2.33\ x\ (20/4)\} - (0\ x\ 2) - (0\ x\ 1)$
 $= 11.65$

This additive model now responds well to both an operation and a safety defect respectively as shown:
{Eq.9} $\{2.33\ x\ (20/4)\} - (0\ x\ 2) - (1\ x\ 1)$
 $= 10.65$

{Eq.10} $\{2.33\ x\ (20/4)\} - (1\ x\ 2) - (0\ x\ 1)$
 $= 9.65$

Revised additive models with 'baseline coefficient'

Initially in the assessment of HRA model, the concept of chance and probability was discussed. The final model proposed proposes a resultant probability of failure as opposed to a resultant index. This model also takes into account a weighting of the defect priority. It should be noted that this model, to ensure robustness applies an exponential weighting to the defect

priorities. The model also now includes a baseline co-efficient. This number is a constant and would be varied for the age and operation history of the platform. It allows for the intent that Naval Platforms are an inherently hazard environment and that whilst a baseline risk is accepted the fleet should not become risk averse. The model accepts the test case of thirty defects as our baseline thus gives a result of zero percentage risk above baseline as follows:

{Eq.11} $\frac{Sum\ (weight\ x\ number\ of\ defects)}{Baseline\ coefficient} = percentage\ risk$

{Eq.12} $\frac{(Pri\ 1\ Safe\ x\ 8)+(Pri\ 1\ Ops\ x\ 4)+(Pri\ 2\ x\ 2)+(Pri\ 3)}{50} = percentage\ risk$

Therefore the amount of risk in our baseline case can be expressed and compared to the high priority defect cases as follows.
{Eq.13} $\frac{(0\ x\ 8)+(0\ x\ 4)+(20\ x\ 2)+(10)}{50} = 100\%$

{Eq.14} $\frac{(1\ x\ 8)+(0\ x\ 4)+(20\ x\ 2)+(10)}{50} = 116\%$

{Eq.15} $\frac{(2\ x\ 8)+(1\ x\ 4)+(20\ x\ 2)+(10)}{50} = 142\%$

This model is perhaps the most effective at comparing the current status of the platform to the baseline risk, it also allows for the percentage risk to be below the baseline risk value. This is perhaps not a realistic measure of safety but it is a comparative quality of this model not provided by the alternative proposals.

VALIDITY OF METHOD

In order to validate the above methodology, some assessment of

risk and probability in general needs to be made. In treating the Risk, it has been assumed that whilst each defect is different and unrelated, they are all sources of hazards that effect the overall safety of the platform. This is in contrast to the cumulative effect of the repeated exposure to a known hazard or probabilistic situation. This can be shown to either increase or decrease a risk given the long term exposure¹¹. A similar treatment of cumulative non related risk could be applied in this situation; however it would require a probability for each defect or hazard to be known prior to the calculation. This methodology has been excluded due to the cumbersome nature of the mathematical process (iterative histogram).

The methodology of deducing a Cumulative Hazard Risk of failure from a number of otherwise independent variables is supported by the availability of integrated Cumulative Hazard Risk models in other fields of risk management¹².

USE OF MODEL BY COMMAND

28. One of the most appropriate uses of this model is to have the Cumulative Hazard Risk Index included in routine reports from the Ship to Fleet Command. The index is appropriate for and could be used in the following situations:
- a. Monthly URDEF Summary – to give an overall indication of the technical integrity of the platform;
 - b. Report of proceedings – to track the performance and technical health of the platform (perhaps limited use);
 - c. Senior Officer Status Report – to highlight capability concerns and long term operational impact of the platform status; and
 - d. Departure / Entry Harbour Briefs – to provide a command focus on the inherent risk of taking the ship to sea,

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or proceeding through pilotage waters.

Hazards will, for the foreseeable future, be part of the business of operating a frontline warship. The management of these risks will remain an important part of the working routine of the crew and managers. To avoid becoming risk averse, a culture must be established that allows open and honest reporting of all hazards and associated risk. In order to increase the value of this process, a Cumulative Hazard Risk model has a variety of benefits as shown above.

Whilst Ships remain on operation with tolerable risks subject to periodic and continuous review, the risk management process must also be subject to some form of review, in order to ensure that serving in the Royal Australian Navy is synonymous with a safe working culture that meets if not exceeds industry best practice.

A 'Priority 1 Safety' defect will still imply that a ship is unable to proceed to sea, as will a 'Priority 1 Operations' defect prevent the completion of a mission. The Cumulative HRA proposed above is not, at this stage, expected to remove this constraint, nor is it to force a ship to alter its programme. It is however proposed as an essential modelling tool for command to assess the tasking of the platform in view of the total risk.

In view of this paper, it is recommended that;

a. The Director of Technical Regulation – Navy and Fleet Command - Engineering Division conduct further analysis of Cumulative Hazard Risk Modelling for Fleet Units;

b. The averaging model with adjustment for high priority defect {Equation 7} and the revised additive model with 'baseline coefficient' {Equation 11} be further evaluated as possible models for use within Fleet Command; and

Further training be provided to Engineers and Command in order to make use of these new models in adding value to Reports and returns from Fleet Units;

Whilst the recommendations are not, in this case tied to a time line, the sooner they are implemented will guarantee a more accurate assessment process of Navy Technical Integrity. ➔



Lieutenant Damon Craig joined the RAN in 1997 as a RCTET. After a posting to FISSO, he was commissioned and attended RMIT University, graduating in Communication Engineering with First Class Honours, and awarded the RMIT Engineering Faculty Kernot Medal and the University medal, the J.N. McNicol Prize, for academic achievements and contribution to the University. He has served in the Middle East in HMAS Darwin and Tobruk and is currently posted to HMAS Sydney as the DWEEO. Craig has also served at Cerberus when he was the Military Development Officer.

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A LOOK AT SOME OF THE IMPLICATIONS OF CLIMATE CHANGE UPON THE RAN

BY MIDN JEREMY BAUMGARTEN

Human Induced Global Climate Change (also called Global Warming) has been a passionately debated issue for the past 20 years, regarding whether it exists or not and if so to what will be the extent of its the impact. Whilst there are no certainties as to the existence of Global Climate Change, the reality is that the proof is building, through the enormous body of research that is being published weekly as well as by the changes to the environment that we are all experiencing daily. This article examines the impacts that global climate change could potentially have upon the Royal Australian Navy, by breaking them down in to two areas of discussion: National Implications and Regional Implications. Whilst there are a myriad of reports that model the future climatic changes to the planet, this article bases its facts upon those contained within the "Intergovernmental Panel for Climate Change's (IPCC) fourth assessment on climate change" published in 2007, which is generally considered to be one of the more accepted predictions. This report is based on historical facts and figures and basis its future assumptions upon these.

BACKGROUND

Scientists have been aware the earth has been getting warmer since the 1930's¹ and have attributed this to what is called the greenhouse effect, where the increase in numerous gases in the atmosphere, in particular Carbon Dioxide (CO₂), causes heat from the sun that ordinarily would have been reflected off the earth's crust back into space, to be trapped within the Earth's atmosphere². The result is that over time the earth's average temperature increases. Over a short

period of time, the Earth's atmosphere is able to accommodate the increases in CO₂, that has been largely caused by industrialisation. However this has been occurring for more than 200 years, and since the end of WWII CO₂ emissions have been occurring at a rate exponentially greater than any other period of human existence³.

Overtime the slow and slight increase in temperature will increase to a faster and greater rate. Humanity is currently on the verge of climate change getting to a point where it will take thousands of years to recover from the effects. There are a considerable amount of effects that can arise from the changes to global temperature, ranging from increased frequency and severity of both storms and droughts, heat waves, reduction in agricultural output, increased sea levels due to the melting of polar ice caps, and ironically there is a theory that an Ice-age could result (as Dennis Quaid so elegantly demonstrated in *The Day After Tomorrow*⁴).

The Summer of 2008/9 demonstrated that Australia may already be experiencing some of these effects, with record heatwaves in the south being matched by massive cyclones and wide spread flooding in the north. This in the opinion of the author demonstrates that there is damage caused to the earth as a result of climate change and its implications are very relevant in the short term.

EFFECTS TO AUSTRALIA AND IMPLICATIONS ON THE RAN

As has been seen in Australia in recent years the climate is getting warmer and drier. There are numerous explanations of why this occurring ranging from El Nino / La Nina cycles through to what is believed to have been a climatic



change to Australia, resulting in an eastern shift in the Australian climate, which has the effect of slowly spreading the deserts of central Australia closer towards the main population centres of Eastern Australia. What has also been observed is that there have been an increase in the amount and severity of destructive weather driven natural disasters over the past 20 years. Examples of this include the Sydney hail storm of 1999⁵, Cyclone Larry of 2006, Cyclone Ellie and the subsequent floods of 2009 and the nationwide heatwaves of 2009. Clearly there is very little that the RAN can do to prevent these events, however it is the Navy's role as detailed in the 'Australian Maritime Doctrine' (AMD)⁶ to, when required provide "Defence Assistance to the Civil Community", (DACC) something that is particularly necessary during times of disaster relief. As is

Citizens of Puerto Cabezas rush to get Meals Ready to Eat (MRE) that were dropped from an MH-60S Seahawk helicopter

A LOOK AT SOME OF THE IMPLICATIONS OF CLIMATE CHANGE UPON THE RAN

further stipulated by the AMD; 'ship borne helicopters can be particularly useful and ships may act as logistic support bases, hospitals and command posts for long periods, the specialist skills available in ships also mean that their personnel can be invaluable resources of trained manpower for rehabilitation and repair work'⁷. Thus it can be seen that in the event of natural disaster the RAN may be called upon to react.

So what does this mean with a predicted increase in the frequency and severity of natural disasters as a result of global climate change? The outlined advantages that a naval unit can bring to a natural disaster zone seem to mirror those that the upcoming Canberra Class LHD's will have. Will the potential increase in natural disasters affecting Australia mean that an LHD will have to be available in the event of such an event and as a result will its primary task as an amphibious assault ship to support joint expeditionary operations be reduced? Or will there always be a need to have another vessel present in Australian waters, to provide relief? Or will there need to be a new strategy considered by ADF as part of future planning on how the Navy will respond to provide assistance to the civil community?

In addition to the above stated challenges caused by the increase in freak climatic events, the very slow changes to Australia's climate may have their own effects upon the Navy. If current levels of atmospheric pollution continue it is predicted that Australia will face an average temperature rise of around 2°C over the next 30 years⁸. Although this may seem small its effects will be exponentially greater than a normal summer day in Sydney being 34° as opposed to 32° - the Australian continent will become significantly hotter and drier. This will have implications upon



Australia's ability to produce its own food. As a result Australia may have to become increasingly reliant upon imports. This where the Navy's role will come into this symptom of climate change since it is one of the RAN's primary responsibilities to ensure the safety and security of our Sea Line of Communications (SLOC). Whilst SLOC today see the vast majority of Australia's imports and exports pass through them, with a reliance on them for food their importance will be greater, and also more vulnerable - if Australia suffers from reduced food output then it is likely that other nations will also. The result of this could potentially be that Australia's maritime and border security may come under increasing threat as there could be significant increases in piracy and illegal fishing being found much closer to our shores.

EFFECTS TO THE REGION AND IMPLICATIONS FOR THE RAN

According to the AMD the South West Pacific is one of the fundamental regions of Australia's strategic

environment⁹. The islands of South Western Pacific also is one of the most vulnerable to climate change, due to high population densities and that they are low lying in comparison to the ocean¹⁰. Sea levels will always vary over time, however it is predicted that by 2100, the worlds average sea level will rise by approximately 0.5-1.4m as a result of the melting of the polar ice caps¹¹. The combination of the predicted rise in sea levels, combined with the South Western Pacific states' vulnerability to them, has led some to consider them to be the worlds 'canary in the coal mine'¹², with regards to global warming, as the major results of the predicted climate changes will likely affect these regions first. Whilst the island nations that will be particularly affected, such as Kiribati and Tuvalu, may not necessarily see sea levels rise to the extent that their whole nations are covered in water, what may occur is that there is a sea level rise significant enough to introduce large quantities of sea water in fresh water supplies, thereby reducing the ability to irrigate crops, as well as drinking water

HMAS Kanimbla at sea on her way from Darwin, Australia, to Indonesia to support tsunami disaster relief operations

supplies for population centres. These floods are already being recorded at much greater frequency than in 1981¹³ and also have the effects of damaging infrastructure and contaminating fertile land for agriculture.

If these sort of trends continue it may be necessary for the Australian government to provide assistance to our neighbours - apart from New Zealand we are the only country in the region with the resources and ability to do so. What may also occur is a requirement to conduct large scale evacuations of whole communities as their land becomes uninhabitable. Whilst this is very real possibility in the future, many of the Pacific Island nations refuse to discuss it, although the Tongan Prime Minister in 2006 stated that he would like to purchase land in New Zealand and relocate his people there, notwithstanding numerous cultural, political and economic issues.¹⁴ Australia may become the new home for several island nations as their own land becomes unusable, with the nations offering their Economic Exclusion Zones (EEZs) as payment.¹⁵ This would increase the area of responsibility for the RAN in protecting an EEZ that extends well beyond mainland Australia.

This article demonstrated several potential impacts of global climate changes and what the results could be for the RAN. It does not categorically prove the existence and results of climate change or what will be its definite effects. However it shows what current scientific data is predicting, what could be the future for Australia and the region resulting from this, and what subsequently could be the effects upon the RAN. ✎



MIDN Jeremy Baumgarten joined the RAN in January 2006. After graduating from the RANC in June 2006 and a brief period aboard HMAS Manoora, MIDN Baumgarten commenced studies at ADFA in January 2007. MIDN Baumgarten is in his final year at ADFA completing a Bachelor of Arts degree.

Acknowledgements

The author would like to acknowledge the invaluable assistance of CDRE Ray Griggs and CAPT Jaimie Hatcher in production of this article.

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Visions from the Vault



In 1998 Vic Cassells placed the following note at the beginning of his book *Shipmates*, a collection of illustrations and tales of the mascots carried in RAN ships and establishments: 'This book is dedicated to all the creatures, of whatever kind who have eased the sailors' burden.'

Sailors have always had a tendency to adopt mascots. Before the onset of the information age live animals of all kinds were a major contributor to morale, providing a touch of warmth in the otherwise stark confines of a warship. The light cruiser *Melbourne*, which entered RAN service in 1913

and paid off in 1928, possessed a bulldog named Peggy during the latter part of her career. Whether she was on board at the time this photograph was taken is unknown, but it serves as a reminder that if all else failed a sailor could always feed the seagulls!

ANI On-line: A guide to the new website.

Our new website is now on-line! In addition to the features available on the previous site, the new site also features a library of past journals, a discussion forum, a news section and member list. This short guide is designed to help you take full advantage of the new features.

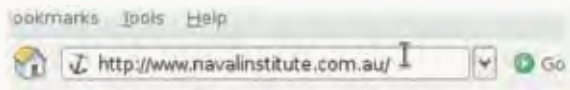


Figure 1

OBTAINING AN ACCOUNT

In order to access the new features of the site you must have a user account for the website. If you have a current subscription to the ANI, navigate to the website www.navalinstitute.com.au using your web browser (figure 1), click the “Members Login” menu item (figure 2), then click the link to download an application form. Fill in the form, then fax or post it to the ANI Business Manager. Once your account has been created, you will receive an email that outlines your member ID and password.

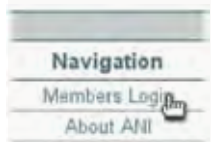


Figure 2



Figure 3

LOGGING IN TO YOUR ACCOUNT

Once you have your account details, you are ready to login and access the new features of the site. In order to login, navigate to the website (figure 1) and click the “Members Login” item (figure 2). Enter your member ID and password as they were provided to you, then click the “Login” button. The case of the member ID and password are important: i.e. “CaSe” and “case” are considered entirely different words by the authentication system. Each letter of the password will appear as a single “*” to prevent others from seeing your password as you type. If you have entered your details correctly, you will be presented with the news page. The grey status bar at the top notifies you of the account you are using (figure 4). You are now able to access all of the new features of the site.



Figure 4

LOGGING OUT OF YOUR ACCOUNT

In order to protect your identity and to prevent malicious use of your account by others, you must log out of the site when you are finished browsing. This is especially important on public computers. In order to log out, click the “Logout” link in the grey status bar (figure 4).

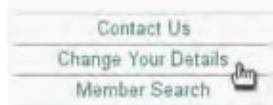


Figure 5

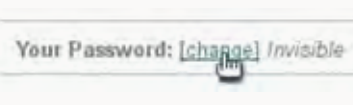


Figure 6

CHANGING YOUR DETAILS

When your account is created, only your member ID and password are stored in the system for privacy reasons. However, you may provide other details that are visible to other ANI members. In order to change your details, login and click the “Change Your Details” menu item (figure 5). Then select the “change” link (figure 6) next to either your personal details or password. Change the text appropriately and click the “save” button (figure 7).

The personal information that you provide will be visible to other members of the ANI but will be hidden from members of the general public. You may provide as much or as little detail as you wish but none of the fields are compulsory. However, you may not change your member ID as it is the link between the on-line database and our off-line records.



Figure 7

Figure 8

PARTICIPATING IN THE FORUM

In order to post topics and replies in the discussion forum, first login and click the “Forum” menu item (figure 8). Then select a forum that you would like to view by clicking its “View Topics” button (figure 9). Select a topic that you would like to read by clicking its “View this topic” link (figure 10). If you are not interested in any particular topic, you may add your own by clicking the “Add New Topic” button (figure 10). Similarly, once you are viewing a topic, you may post a reply by clicking “Add New Post”. Fill in the heading and body of your reply and click the “Submit” button to add your reply to the topic. If you change your mind while writing your reply, you may click the “Cancel” button and your reply will not be added to the topic.

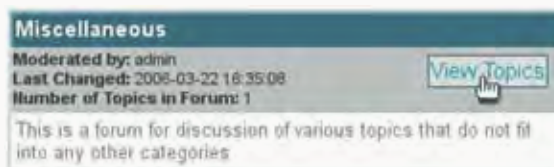


Figure 9

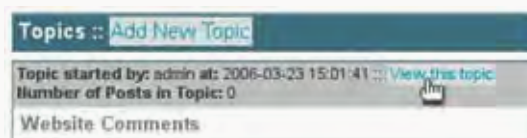


Figure 10

FURTHER QUESTIONS

If you have specific questions regarding website features or even a feature request, post a topic in the “Website Questions” forum and a site administrator will reply. Otherwise, happy browsing!

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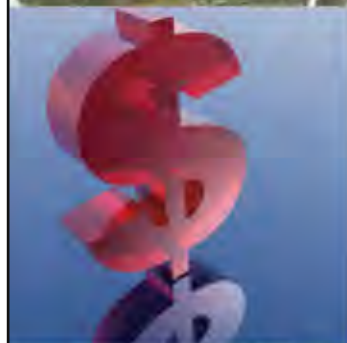
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