Journal of the Australian Naval Institute

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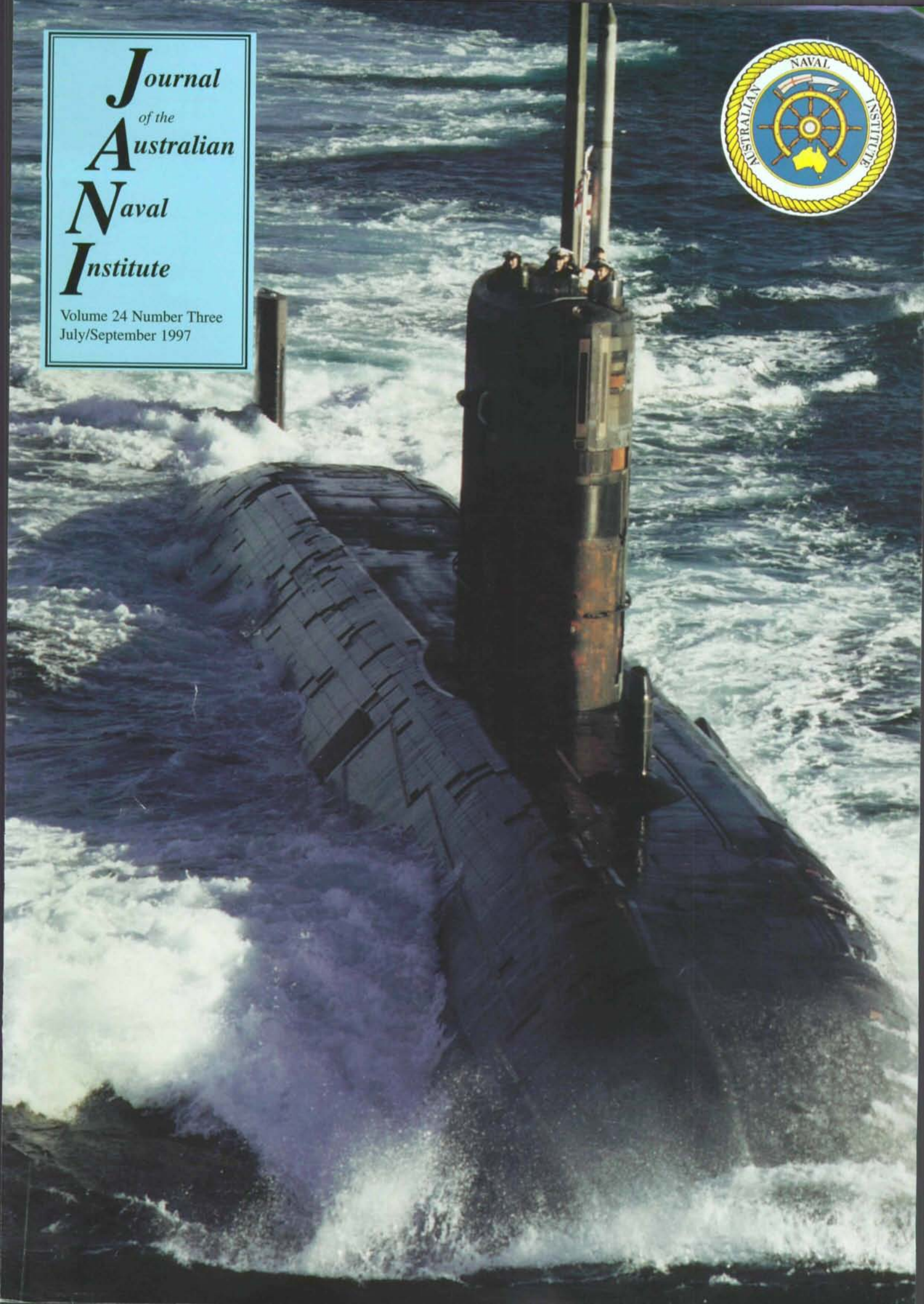

AUSTRALIAN NAVAL INSTITUTE INC.

The Australian Naval Institute was formed and incorporated in the ACT in 1975. The main objectives of the Institute are:

- to encourage and promote the advancement of knowledge related to the Navy and maritime profession; and
- to provide a forum for the exchange of ideas concerning subjects related to the Navy and the maritime profession.

The Institute is self-supporting and non-profit-making. Views and opinions expressed in the Institute's publications are those of the authors and not necessarily those of the Institute or the Royal Australian Navy. The aim is to encourage discussion, dissemination of information, comment and opinion and the advancement of professional knowledge concerning naval and maritime matters.

The membership of the Institute is open to:

- *Regular Members.* Regular membership is open to members of the RAN, RANR, RNZN, RNZNVR and persons who, having qualified for regular membership, subsequently leave the service.
- *Associate Members.* Associate membership is open to people not qualified to be Regular Members, who profess an interest in the aims of the Institute.
- *Honorary Members.* Honorary Membership is awarded to people who have made a distinguished contribution to the Navy, the maritime profession or the Institute.

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STYLE GUIDE

The *Journal of the Australian Naval Institute* welcomes articles and letters on any subject of interest to the Naval and maritime professions. In general articles should be no longer than 5000 words and should conform to the *AGPS Style Manual.* Spelling will be in accordance with the Editor's copy of the *Macquarie Dictionary.* Submission of a disk and hard copy is preferable. Enquiries, articles and letters may be directed to the Editor.

Journal of the Australian Naval Institute

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Front Cover: The attack submarine HMS Trafalgar *heading towards Fremantle on July 14, 1997 along with HM Ships* Illustrious, Fort George, Beaver *and* Richmond. *RFA's* Fort Austin *and* Diligence *berthed in Fremantle where HMS* Trafalgar *went to HMAS* Stirling *to join her sister HMS* Trenchant *at Fleet Base West. The guided-missile destroyer GMS* Gloucester *visited Bunbury.*
(Photo: LSPH Peter Lewis, RAN)

Back Cover: HMNZS Waikato *(F55) underway in Sydney Harbour, 12 July 1996.* Waikato *is the RNZN's oldest frigate and operates essentially in the sea training role. Her Seacat point defence missile system has been removed from the hangar roof without replacement.*
(Photo: CMDR R. T. Jackson, RNZN)

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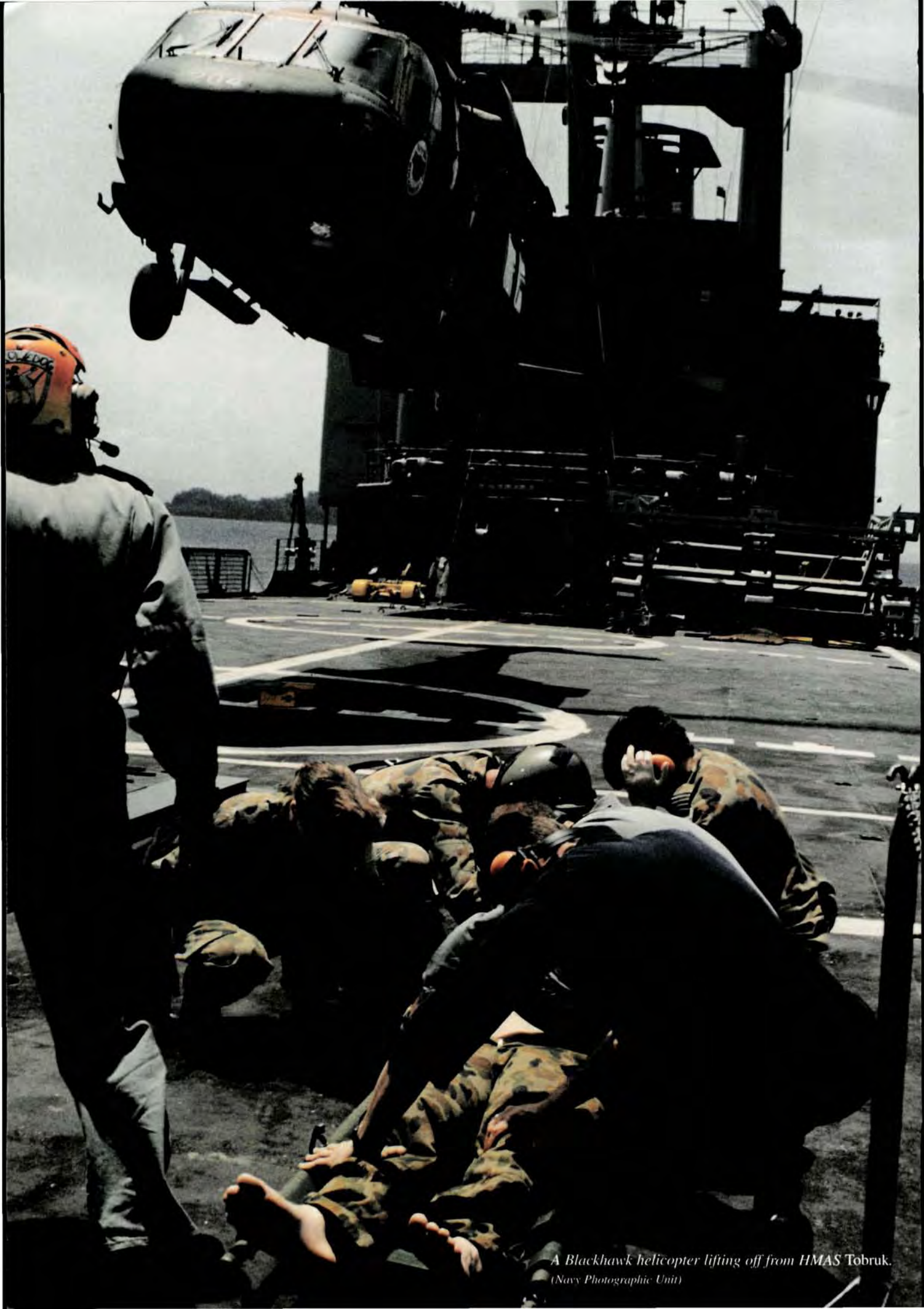

A Blackhawk helicopter lifting off from HMAS Tobruk.
(Navy Photographic Unit)

From the President ...

The position of President of the ANI has been somewhat unsettled this year, reflecting the substantial changes which the whole Defence Community is undergoing. Notwithstanding this I am very happy to hold the position and am looking forward to the challenges that the next few months present. They could be the most important since the ANI's inception, as the Institute is currently facing a serious position in relation to its future viability.

For some time now the Journal has been the flagship of the Institute, but its production costs are very high. Despite changes which have been made this year to minimise costs wherever possible it still represents the overwhelming bulk of the ANI annual expenditure, which leaves little for other activities. Although it would appear that there is general satisfaction with the quality of the Journal the opportunity cost its production represents is substantial; by putting so much into the Journal we forgo the ability to conduct many other activities. The question which we must face is how to continue to produce a publication of equal quality which does not cost nearly as much.

The Council is currently considering a number of alternatives. These revolve around essentially two alternatives: completely restructuring the Journal so that its costs are reduced by an order of magnitude; or gain more income from the Journal so that it pays for itself. The first has obvious consequences for the quality of the Journal while the second is difficult for an organisation staffed entirely by volunteers. One proposal is that the production of the Journal might be sub-contracted to a publisher who would generate his profit from selling advertising. The Council would retain editorial control, including a veto on advertising. The Journal could then be sold through commercial outlets, which would have a number of potential benefits: sales should generate a profit, but even if they did not the Journal would become self-funding; membership charges could be reduced; and we would have a wider exposure with the potential to attract additional members or contributors to the Journal.

If the costs of the journal are reduced then there would be scope to undertake more activities in pursuit of our aims. I should add at this point that I do not believe there is any question over the Institute's goals of promoting and providing a forum for discussing matters of interest to the naval and maritime professions. But there are other ways in which we can do this beside simply publishing a journal. For example, generating more activity at the local level in areas where there are concentrations of members, or reinvigorating the ANI Internet site. The latter is an initiative which I believe is important for us to pursue in order to exploit a medium that has the fastest growth of any in the developed world. If the ANI is to remain relevant in the 21st century we must not only have a pertinent message, but it must be put forward in a manner which people will find engaging.

The issues being considered by the Council have far reaching implications for the Institute. Thus it is my intention that, once a preferred course of action has been decided upon, it will be put to the membership at an Extraordinary General Meeting. I would welcome any input that you, the Institute's members, might have.

Finally, I would like to express the appreciation of the Council for the efforts of Vice Admiral Chris Barrie during his tenure as President of the Institute. Under his leadership a number of very positive steps were taken to put the management and operation of the Institute onto a stronger footing. Our thanks also go to Rear Admiral Murray Forrest who stepped into the breach when Admiral Barrie had to relinquish the Presidency. We wish him well in his retirement.

Bill Dovers

From the Editor ...

The purpose of this *Journal* is primarily to provide for the ANI a forum for discussion of issues of interest to the naval and maritime profession. Judging by that criterion alone the *Journal* has not had the best of years. There has been very little discussion of contemporary issues and only a little more on historical matters. It is almost like the early 1990s again: peace breaking out all over the world, no disagreement and *JANI* the fount of all wisdom!! However, 1997 has seen a variety of matters which seem to be quite controversial: at least they are the subject of much discussion over a brew. The report of the Defence Efficiency Review and the subsequent Defence Reform Program, changes to the ADF's higher command arrangements and the as yet unreleased Strategic Review seem to be matters of considerable importance for the RAN. To say that there are many others is an understatement at least.

There are no doubt many reasons why little discussion of these matters has made its way into these pages. But the primary reason is, I think, technological. People do not send letters anymore. Written expression is only used for formal statement of ideas for work or study. Instead, people now use electronic means to communicate; either e-mail or telephone. The result is that discussion of contemporary and/or controversial events occurs in a different medium. For *JANI* this poses a considerable problem as it is a print based medium.

One possible solution is to say that as *JANI* is not fulfilling its primary purpose it should be scrapped completely. That would allow the ANI to spend scarce resources on other more effective means of providing a discussion forum. But it would also ignore the achievements of the many who have contributed to the *Journal* over its lifetime. Although *JANI* has not been able to engender discussion it has become a means of disseminating knowledge about the naval and maritime professions (another aim of the Institute). Although discussion may take place in other media, the publication of papers such as the ANI Silver Medallion winning essays from the RAN Staff College is important to give them a wider distribution so that they may form the basis for further consideration.

Discussion of contemporary issues is an important part of the ANI's aims. Thus a restructuring of the *Journal* to reduce expenditure and enable a discussion forum to be set up is important. The discussion forum could be Internet based but could also include a wider range of talks and seminars, presently not possible because of the resources consumed by *JANI*.

At this point it should be noted that the paucity of contributions to the *Journal* on issues of current interest does not reflect on those who have written letters and articles on other subjects. Despite the relative lack of material on current issues, there have been a high quality articles on various subjects and as argued on this page last month, historical as well as contemporary study is valuable.

This edition has two ANI Silver Medallion winning essays, a Peter Mitchell Prize winning essay, articles on seaman officer training, the RMA at sea, Very High Speed Vessels (VHSV) and the Corfu Channel Incident of 1947: all subjects which are of value, current and historical, to the naval and maritime professions. In particular the Corfu Chanel Incident and VHSV are worthy of study. The Corfu Cahnnel Incident illustrates, among other things, the dangers of constabulary naval operations and their requirement for a high level of operational competence, and VHSV have the potential to radically alter the conduct of warfare in the maritime environment as 30 knot frigates cannot protect 50+ knot cargo vessels.

Alastair Cooper

ILLUMINATION ROUNDS

Despite its title, this Journal is a surprising example of joint service thinking. The authors of the major papers are frequently Army officers, occasionally Air Force officers and sometimes, are from overseas. Indeed the editor must be doing a lot of coordination and deadline setting to get such a range of non-RAN writers!

But the curiosity of this journal is how infrequently the voice of the middle-ranked sea-going RAN (or RNZN) officer is heard. I know that the sea-goers are hard worked, pre-occupied with their day to day priorities of keeping the seas, leading their sailors and practicing warfighting at sea. But I also know that in these days of laptops, shipboard LANs and floppy discs, it is easier to write than ever before.

But what should our sea-goers be writing about? They after all are the ones who have no regular mail, feel out of touch and don't get to see the latest of the professional magazines; no wonder they feel some one else should be doing the professional thinking and writing.

Well, sitting in Canberra, or in MHQ, we would love to know your impressions of the navies of our friends and allies – we can look up Jane's, but we don't know how they are doing in fleetwork or in RAS or in general seamanship. We would like to read about ports, merchant ships, the hassles of navigating in the Gulf, the thrill of a search and rescue... And yes, I know your CO is sending off his Report of Proceedings, but those just aren't widely read and anyway, your view and your experiences may be quite different.

And your experiences may not just be another sea story, the things you see and do may have set you to thinking about the state of our reign, or of our economic strength, or of the tensions in the societies of our neighbours. An incident on a run ashore may highlight social issues that otherwise are just dry academic analysis.

No, I'm not suggesting *JANI* should be some kind of cross between an intelligence publication and a tabloid newspaper; rather I'm just trying to illuminate that the events during our ships' deployments undoubtedly cause you to think on the sights and sounds you experience, undoubtedly cause you to speculate and commentate on the places you've been. Share those thoughts!

It's not impossible for the sensitive new age nineties officer to put his or her thoughts in writing. There have been some good examples in *JANI*, and the Army and the RAAF have shown us how. Indeed, the Army (rumour has it) is set to monopolise the essay competition at the RAN Staff College – Army officers, it seems, are willing to set their thoughts down on paper.

So let's hear from the fleet. What's really being talked about and discussed at the sharp end?

Some Mistake, Surely...

The following letter was sent from HM Submarine *Solent* in the late 1940s in reply to a demand from Portsmouth Dockyard, together with a Form D.786, asking for the whereabouts of a 'Cutter, Sailing, 32 Foot', issued to *Solent*. Having first acknowledged the letter, the rest of the reply became a classic:

It is however, much regretted that a careful search of HM Submarine under my command has failed to reveal any sign of Cutter, 32 foot, serial number 852, much less its attendant bridles, steel wire, rope, slings, chains, steadying lines, chains or hook, Robinson's common pattern No. 4K. The absence according to the above mentioned form D.786 (in triplicate), of any form of disengaging gear for Cutter, 32 foot, serial number 852, is viewed with the utmost concern.

During the recent hostilities, with which your department was doubtless closely concerned, it was not the normal practice of submarines to carry such boats, but with the advent of peace it is fully appreciated that changes must be expected at any time, and of any dimensions; and it noted that the boat in question constitutes first supply to HMS *Solent*.

However, the fact that the only two davits in the ship will not plumb the water, are tested to only 30cwt., are 110 feet apart and on opposite sides of the ship, would appear to present an obstacle of almost insuperable proportions, and in view of this, it is requested that arrangements be made to cancel the supply of this boat.

It is further remarked that the ship's present complement of seamen is insufficient to man a cutter.

It is suggested, without reflection on the efficiency of your department, that the possibility of Cutter 32 foot, Serial number 852 having been allocated to the wrong ship (as yet on paper only) may profitably be investigated.

To obviate unnecessary inconvenience to, and correspondence with, your department, it is brought to

your notice that HM Submarine *Solent* carries no cutters, oxy-acetylene, pneumatic or bread, although it is considered within the bounds of possibility that any such items might be put to more profitable use than Cutter, 32 foot, serial number 852.

With apologies to the Naval Review

One Way of Coming to Anchor

Dear Admiral,

'It is with regret and haste that I write this letter to you; regret that such a small misunderstanding could lead to the following events, and haste in order that you will get this report before you form your own preconceived opinions from reports in the world press, for I am sure they will tend to over-dramatise the affair.

We had just picked up the pilot and the apprentice had returned from changing the "G" flag for the "H"; this being his first trip he was having some difficulty in rolling the "G" flag up. I therefore proceeded to show show him how.

Coming to the last part I told him to let go. The lad, though willing, is not too bright, necessitating my having to repeat the order in a sharper tone.

At this moment the Chief Officer appeared from the chart room, where he had been plotting the vessel's progress. Thinking that it was the anchors that were being referred to he repeated "Let go: to the Third Officer on the Fo'c'sle. The port anchor, having been cleared away, was promptly let go.

The effect of letting the anchor drop while proceeding at full harbour speed proved too much for the windlass brake and the entire length of port cable was pulled out "by the roots". I fear that the damage to the chain locker may be extensive.

The braking effect of the port anchor naturally caused the vessel to sheer in that direction, towards the swing bridge that spans the river up which we were proceeding.

The swing bridge operator showed great presence of mind by opening the bridge for my vessel. Unfortunately, he did not think to stop the vehicular traffic, that result being that the bridge partly opened and deposited a Volkswagon, two cyclists and a cattle truck on the fo'c'sle. My ship's company are at present rounding up the contents of the latter which, from the noise, I would say were sheep.

In his efforts to stop the progress of the vessel the Third Officer also let go the starboard anchor, but too late to be of practical use as it fell on the bridge operator's control cabin.

After the port anchor was let go and the vessel started to sheer, I gave a double ring "Full astern" on the engine room telegraph and personally rang the engine room to order maximum astern revolutions.

I was informed that the sea temperature was 53° and asked if there was a film on tonight. My reply would not add constructively to this report.

Up to now I have confined my report to the activities at the forward end of the vessel but down aft they were having their own problems. At the moment the port anchor was let go the Second Officer was Supervising the making fast of the after tug and was lowering the ship's towing spring down into it. The sudden braking effect of the port anchor caused the tug to run under the stern of the vessel just as the propeller gained maximum revolutions astern. The prompt action of the Second Officer in Securing the inboard end of the towing spring delayed the sinking of the tug by some minutes: I feel sure you will be pleased to know she was safely abandoned.

It is strange, but the very moment of letting go the port anchor there was a power cut ashore. The fact that we were passing over a submarine cable at that time suggests that we may have touched something on the river bed. It is perhaps lucky that the high tension cables brought down by the impact of the bow on the swing bridge were not live, but owing to the blackout on shore it is impossible to say where the pylon fell.

It never fails to amaze me, the actions and behaviour of foreigners during moments of crisis. The pilot for instance, is at this moment huddled in the corner of my day cabin, alternately crooning to himself and crying having consumed a bottle of gin in a time worthy of inclusion in the Guinness Book of Records. The tug master, on the other hand, reacted violently and had to be forcibly restrained as he keeps telling me to do impossible things with my ship and my person.

I enclose the names and addresses of the drivers and insurance companies of the vehicles on the fo'c'sle, which the Third Officer collected after his somewhat hurried evacuation of the area. These particulars will enable you to claim for the damage done to the railing of No 1 Hold.

I am closing this preliminary report as I am finding it difficult to concentrate with the sounds of police sirens and their flashing lights. It is sad to think that had the apprentice realised that there is no need to fly pilot flags after dark, none of this would have happened.

PS Please send details of your early retirement scheme."

Also with apologies to the Naval Review

Operation Goodenough

The following letter was found by an ANI member in London. It is a reply to Admiralty letter NL. 2859/62 requesting details of the location and condition of the grave of the late Commodore James Goodenough, RN, Commodore of the Australian Station until 1875.

On receipt of Admiralty letter ND.2859/62 dated 21st January, 1963, the following action was taken.

A probability area was established in the centre of the North Shore Cemetery, St. Leonards, and a search force despatched. In view of the importance of the mission I decided to take command myself, the other member being a Petty Officer.

Conditions for grave spotting were good, with the sun still high and visibility at least 20 miles.

On arrival at the cemetery the search force formed up in line abreast distance apart two graves with a North South search axis and search turns ordered at each boundary wall 1.

After 45 minutes, the area had been fully covered and no firm contact gained, though several possibles had been investigated and subsequently classified as nontombs. I was about to withdraw my force, on whom the heat was beginning to tell when the three badged A.B. truck driver on hearing of the failure of the search, suggested having the Commodore piped for.

It was realised almost at once that this remark was probably flippant and in any case we had no bosun's call. I decided therefore to withdraw my forces.

Although discouraged, I was torn between asking the Admiralty for a "Gridlock" or the Almighty for an "on top". The situation as I saw it then could only be described as: not good enough.

The next 48 hours was spent in obtaining local intelligence which revealed that apart from the cemetery already searched which is kept well stocked by the hospital next door, surprisingly few people die in St. Leonards. In fact only one other small cemetery was pinpointed.

A second search force was therefore despatched on Saturday afternoon consisting of myself and my twin daughters. It was intended this time to take advantage of the well tried Mk. 1 Feminine Intuition Equipment.

It had been my original intention to order a gum tree search, but on arrival it was found that none existed in this area, and the usual line abreast search was ordered. Distance apart of Ships being reduced to one grave, in view of the height of eye of my consorts. (Both only laid down in 1955).

Conditions were excellent and visual contact was gained almost at once by HMS ANNABEL on the Port wing, who was immediately joined by HMS VIRGINIA acting on her own initiative.

Having positively identified the target, which was in obvious need of attention, it was decided not to carry out an urgent attack, but to mark the datum and return to base with photographic evidence only.

The target was subsequently attacked for three days with fire, grasscutters, phosphoric acid, red lead and paint, and the results of these attacks duly photographed.

I was about to recall the SAU, confident now that I could report to their Lordships "Operation Goodenough completed", when with exquisite timing, a rather lugubrious individual who had been watching the operation for the past three days remarked that the new Sydney to Newcastle express motorway now being built, was scheduled to pass straight through the cemetery.

'Whilst it is appreciated that the Department of Main Roads will be doing the job regardless of expense, only Their Lordships can really judge as to whether or not this treatment is good enough for Goodenough.

Commander Fourth Submarine Division,
Blamoral Naval Depot Sydney

PHASES OF A PROJECT

1. Enthusiasm
2. Disillusionment
3. Panic
4. Search for the guilty
5. Punishment of the innocent
6. Praise and honours for the non-participants
7. AINS

Letter to the Editor

A letter from Wellington

Dear Sir,

The absence of letters from Wellington in recent issues of *JANI* was due to your correspondent, somewhat unavoidably, leaving town. But after a year or so, I have been able to get back in touch with the political-military interface of 'harbour capital'.

And in 1997 that interface is dynamic! Defence has regularly been on the front pages, commentators have been treating the subject seriously, and some (a few) politicians have been speaking forcefully on the subject. It is a very different atmosphere from the combination of disdain and wishing defence would go away, that was so apparent in the early 1990s.

So what has made the difference?

First, a deep manpower crisis. Too many highly trained technicians, aircrew and engineers had left both the RNZN and RNZAF, with the result that by the end of 1996 ships were going no where and air operations were severely constrained. Pay was a significant part of this retention problem.

The news media began to notice and the state of the NZDF became a political issue. Combined with the aftermath of the 1996 election – a lengthy period of political inactivity while the coalition government was negotiated – the Kiwi news media found that defence was a worthwhile subject, with real policy issues to report. Television One, which was usually supercilious about defence, actually devoted a prestigious "Assignments" programme to the subject. And produced a fair assessment, by all accounts.

Of course bad news inevitably grabbed attention – a sex harassment claim from Wellington's 95/96 Gulf deployment burst into the headlines. The indications are, in fact, that the Human Rights Commission will find that the RNZN has been making reasonable attempts to counter sexism.

But the big emphasis for 1997 is on new equipment. Our replacement survey and oceanographic ship, HMNZS Resolution, arrived in March. An ex-American T-AGOS (made redundant by the end of the Cold War and the near-collapse of the Russian submarine force) the new ship also symbolises the improving relations between the NZDF and the US Navy. There is of course a long way to go to end the ANZUS rift – the Annual Reference edition of Asia-Pacific Defence Reporter, for example, had a commentary on the political attitudes in Wellington that prevent a closing of the rift.

The other major equipment decision was about the replacement naval helicopters. Like the RAN, the RNZN is choosing the Kaman SH-2G Seasprite (which is a big blow for Westland and their Lynx). The RNZN will in fact take delivery very soon of four SH-2F helicopters, to operate as an interim helicopter so the old Wasps can be rapidly retired. You are likely to see an F-model Seasprite in Te Kaha before the end of this year.

Te Mana has been launched (true to her name, shrugging off the first swing of the champagne bottle) and the next big issue for the RNZN is the government's decision on our option of two more Anzac-class frigates. Of course the decision in Canberra with the recent budget, to proceed with the Anzac-WIP means that by Anzac No. Ten, TDS will be building quite a different ship from the first few of the class. Hence the third and fourth Anzacsi for the RNZN (assuming they are also Anzacs 11 & 12) may need a considerably renegotiated contract.

The policy stuggle to gain approval for the next two frigates is being fought in the corridors of power. One piece of ammunition for the RNZN is its recently published *Maritime Doctrine*, which is a well laid out argument for a navy in the NZ context. "Doctrine" is one of the those words that gets the hackles up on many in the RAN, but that probably means they have difficulty in articulating the Australia's naval doctrine. The RNZN's doctrine is clearly inspired by BR 1806, the RN Maritime Doctrine, but it is condensed and focussed on rationale for a naval force structure, rather than combat methodologies. Never-the-less it appropriate reading for Naval Officers across the Tasman, and I hope it inspires the RAN to make some clear statement of its own doctrine.

Our frigate decision won't be made until the 1996 Defence Assessment has been agreed by the government. It appears that the Assessment will emphasise the maritime nature of potential flashpoints in our region, and so should reinforce the case for the next two frigates. But it will undoubtedly also make the case for modern strategic airlift (C-130Js) upgraded Orions and replacement fighters (as well as highlighting the obsolescence of key items of Army equipment). All in all, Wellington will actually see the bill resulting from years of procrastination and neglect of our armed forces.

But the good news is that Kiwi politicians, even apparently a few on the Left, have recognised that Defence cannot be cut any more. So by the end of the year we should have a clear way ahead for the RNZN's frigate force, while I would expect the RNZAF should also have a clear commitment to a new transport fleet and re-equipped Orions. It won't be everything in the shopping list, but sufficient to help the long process of restoring morale and reducing our personnel losses.

Jacko

Your Career, Your Choice

Sub-Lieutenant James R. Harrap, RAN

In the present climate the biggest threat facing the RAN is not a strategic military build-up to the north or the requirement to fill the maritime power vacuum left by withdrawal of US presence from South East Asia. The threat is far closer to home. It stems not from the end of the cold war and breakup of the assets of the 'Evil Empire,' but from the favorable economic climate in Australia and the dramatic increase in resignations among serving members of the ADF. The extent of personnel shortage has impacted the RAN's combat capability far more drastically than any new capital equipment or weapons procurement programmes within the region.

The personnel shortage affecting the navy (indeed the entire ADF) is no new idea to anyone who has not been absent from the planet for the past few years. It has been the subject of many reviews, including the recently completed *RAN Employee Attitudes Survey* and has been of prime concern to those responsible for the *Naval Personnel Strategy 2010 (NPS 2010)*. As a Sub-Lieutenant completing SEAAC, I do not purport to have an in-depth grounding of this problem apart from what I have observed myself, being caught in the thick of it. However I wish to present some ideas which I find attractive and, for lack of anything else that works, should be considered.

I remember back to my initial training cruise in 1994 when almost everyone I spoke to was leaving, officers and sailors alike. Later that year I was among a group of Midshipmen to have lunch with the CNS, and at that time learned that VADM Taylor was searching for a solution to the massive personnel problem that the Navy was facing. I learned that personnel issues are everyone's' problem and there are not yet any sure-fix answers. While the situation has abated somewhat since then, some core problems still exist, on the most fundamental levels, and need to be addressed. It was with this firmly on my mind that I read with interest an article in the January issue of the *Proceedings*, the Journal of the US Naval Institute, entitled *Keep the Best.*[1]

As a former Lieutenant in the US Navy, now involved in management in the civilian workplace, the author Mr Fricker, poses an interesting new way by which the US Navy personnel structure could be oriented. I believe that there is something in what he says that could be relevant for the RAN. Part of the argument revolves around the way junior officers' careers progress and how this relates to the promotion policy.

I consider myself fairly typical among junior officers joining the RAN: after spending three years at the Defence Academy I commenced SEAAC and will graduate with largely the same people I joined with four and a half years earlier. It has already been a long training pipeline, but this is only the beginning. In a recent discussion with the Seaman Officers Posting Officer, the following rough career outline was presented†:

SEAAC

⇩

Phase IV and BWC

⇩

OOW posting

Intermediate Qualification
(ASAC, AIC, MWV Nav, Met, etc.) and posting *

⇩

Advanced Qualification/Sub-specialization
(LEUT /3) (PWO, NAV, etc.)

⇩

Further postings leading to promotion to LCDR and CO/XO selection.

†Interspersed in this (usually after Intermediate Qualification) a shore posting can be expected.

*SM and Hydro are advanced qualifications possible at the intermediate qualification level.

At present there is a shortage of intermediate qualification personnel and OOW – since many personnel were 'sucked through' to fill a shortage of advanced qualified billets that was a result of the mid-90s mass resignations. There is also a rapidly mounting backlog of unqualified Phase IVs resulting from changes to the SEAAC structure. Despite arguments that these problems are temporary one off occasions, the cause of them perhaps is not. This situation has arisen from a series of knee-jerk reactions by DNOP in an effort to apply a rigid system to a dynamic problem.

On gaining a category '1' certification, one will stay as an OOW for usually a very short period, almost definitely shorter than it took to complete the training process, before going back into the training pipeline for another few months. Before considering necessary pre-requisites for intermediate and advanced billets consider this: if I spend 20 months qualifying for a BWC and only occupy a billet as an OOW for six months (I know of incidences as short as two weeks)

then there will consistently be a shortage of qualified OOW and trainees will clog the system. This shortage will flow up the chain and no one will be happy, least of all the seaman officer who spends his entire junior years in training, with the inherent instability of postings that accompanies it. Another problem with the present suck through system and lack of consolidation is the lack of experience that it creates. While a BWC is a competency certificate, it is for the minimum level of competency and by no means does it not require consolidation. Because of the importance and responsibility of an OOW at sea, an OOW posting should be treated as far more than just a 'tick in the box requirement', considering that once billeted as an APWO it is possible to not take charge of a bridge again until returning as a CO.

Not everyone is capable of, or desires, progression at the rate required to become an Admiral (or Commanding Officer) before they leave the Navy; yet this appears to be the way personnel are directed. The emphasis for junior seaman officers, as I have experienced it, is to get on and do an advanced qualification course as quickly as possible because progression will be minimal if you don't. Good advice for the officers who are 'lifers' but what about those who are only in for the short term -and there are more of those around today than ever before. Out of my class, which I do not see as atypical, there are only perhaps only 20% who will openly say they are in for the long haul. If newly qualified people keep getting pushed back into the training pipeline, the navy will not get a decent return on its investment. If people leave shortly after or during intermediate qualification training (which is usually when ROSO expires and out becomes an option), not only has money been wasted on them, but their time could have been better spent working with the qualifications they have already obtained.

Of the personnel who elect to stay in, not all desire to progress rapidly through the ranks. What is wrong with being a career OOW, ASAC or Navigator if you are good at it; thus reducing the number of trainees required and getting more out of qualified personnel. Many people I am sure would trade rapid career progression for increased stability of posting (which this approach could better offer) and I dare say most CO's would sleep better knowing the OOW has been qualified for three years rather than three weeks! One of the findings of the recent RAN employee attitudes survey was that:

'Future postings are a more important determinate of whether people stay or leave the service than are their promotion prospects'[2]

I believe that this is about as close as it gets to an invitation for a more flexible officers career structure formed along these lines. With present employment trends continuing to move away from lifetime career paths, I consider self paced progression a definite step in the right direction -leading naval personnel management with the tide instead of persisting to fight against it.

The problem of 'deadwood' clogging the system can be avoided by DNOP reserving the right to remove and replace people if required -and only if required. There will of course be some postings that will be more sought after than others (as determined by applications or requests for that position) or are choke-points in career progression, and a limit of time in posting will be the only reasonable option for these. I also see it as a necessary (dare I say inevitable) step for the Navy to abolish the concept of lifetime employment. While allowing officers greater freedom in building their career, members who cease to be employable in their present capacity or whose job disappears will be faced with retraining or retrenchment.

How will all this fit with promotion? Well I am a subscriber of Mr Fricker's answer to that also. At present junior officer promotion proceeds largely independent of qualification or billet. I was a midshipman for four years and will be a sub-lieutenant for two then a lieutenant for between six and seven – whereby unless I am in the bottom 10% I will make at least lieutenant-commander[3]. Now while it is not unreasonable to suggest that after 13 years service most officers will be competent to fill a lieutenant-commander billet, I believe that it is presumptuous to state:

'All...officers will be considered for promotion with the likelihood that at least 90% of each total batch will be promoted.'[4]

This promotion policy, while giving some motivation, in terms of the 10%:40%:40% ratio, I feel leaves too small a window and appears to be designed to proceed independent of billet requirements. While there are many seagoing billets for lieutenants there are far fewer for lieutenant commanders. This may have the effect of again jeopardizing the pool of junior officers available to serve at sea in the required billets by promoting them out of available positions.

With this policy comes the idea of developing specific promotion criteria.[5] This would inevitably require completion of certain pre-requisite courses and could instill a culture of 'point collecting' among lieutenants resulting in a conflict of personal and corporate interests. If specific promotion criteria are to be adopted I caution that they would need to be broad ranging and open to circumstantial interpretation.

With a truly flexible career structure there would be no requirement or meaning in a policy like this. The Navy would be free to promote as many or as few officers as required. This would ensure there are always persons in the desired rank filling every billet

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and nobody would be forced out of a billet by their promotion. Persons wanting rapid promotion to the higher ranks would not be forced to wait around longer than they required to gain the necessary experience and those not as quick at learning or as interested in career progression would advance at their own pace.

The days of career progression guaranteed by time of service (if they ever did exist) are well and truly over now – why should the RAN persist with this illusion? Corporate restructuring and increasing efficiency have characterized Australian business development in the nineties, with the lines between the RAN and AUSNAV Inc. becoming fainter with each successive budget, it is no longer a question of whether we can we cope with management restructuring but whether we can we cope without it! As it becomes increasingly expensive to train personnel and difficult to recruit them, the human capital we do have becomes more valuable – and innovative human resource management methods more important. A policy not only to keep but to get the most out of all personnel needs to be found and if, in order to do this, some sacred cows need to be slaughtered, then so be it!

NOTES

1 Fricker, Ronald D.Jr; Keep the Best, *Proceedings*, US Naval Institute, Annapolis, MD. January 1997.
2 The RAN Employee Attitudes Survey, *Seatalk*, Autumn 1997, p5.
3 DEFNAV CANBERRA WBK/WBO 280053Z JAN 97.
4 *ibid*, para 8C.
5 *ibid*, para 10.

Implications for the Royal Australian Navy of Very High Speed Vessels

A. G. Williamson

Abstract

The Royal Australian Navy (RAN) currently faces the prospect of being left behind in the wake of rapid developments in very high speed vessel (VHSV) technology. Their potential for cost effective high speed transport will fill a niche in the transport industry and consequently they may soon become a highly visible part of Australia's maritime environment.

These developments have significant implications for the RAN for two main reasons. Firstly the RAN's current force structure is not capable of effectively performing all of its defence of Australia tasks in a high speed maritime environment. And secondly, the developments offer unique capabilities which have potential to increase RAN effectiveness.

This paper is a broad discussion of the implications which VHSV technology has for the RAN's operations and how it could be used to improve the RAN's effectiveness. The paper also looks at the obvious question of why other navies have not developed VHSV capabilities. Important conclusions are that the defence of Australia is conducted in a unique environment which justifies the investigation of the utility of VHSVs for the RAN. This discussion forms the basis for the paradigm shift which is required for the adoption of VHSV technology for the effective defence of Australia.

Introduction

Australian developments in the very high speed vessel industry suggest that our maritime environment will change significantly as we approach the new millennium. The increasing speed of vessel designs and the demand for fast transport services may see our oceans resemble high speed freeways. This scenario will force the Royal Australian Navy to change the way in which it does business and possibly to change the very nature of its business. This is because the RAN is not structured for performing in a high speed maritime environment and may well be tasked to enforce the necessary regulations.

In the light of these imminent and important changes, it is noteworthy that the Royal Australian Navy (RAN) continues to build and operate large steel monohull ships based on designs used over 50 years ago. These ships are restricted to speeds well below 40 knots and require hundreds of crew to operate. The rapid pace at which the high speed vessel industry has developed in recent years suggests that the RAN should place a high priority on establishing expertise in the area and a clear position on the role of high speed vessels in the future.

Defining Very High Speeds

For the purposes of this discussion a VHSV is defined as any vessel capable of operating at service speeds above 55 knots. This figure is intended to focus the discussion on the leading edge of high speed vessel technology developments which may see commercial service in the near future. The types of vessels which may qualify for this classification include, but are not limited to, Planing Monohulls, Multihulls, Wave-piercing Catamarans, Surface Effect Ships (SES), Wing-In-Ground effect craft (WIG), Hovercraft and Hydrofoils.

The term 'VHSV' is used generically throughout this paper to emphasise the utility of high speed, rather than the utility of certain technologies or types of platform. However the different types of platform have some unique characteristics and so for some discussions it is necessary to differentiate between them.

The RAN's Activities

The Defence of Australia roles which the RAN is tasked to perform can be categorised into the following list of operational activities:

- Surface Warfare
- Mine Warfare
- Anti-Submarine Warfare
- Anti-Air Warfare
- Surveillance
- Communications
- Patrol
- Contact Investigation
- Escort of Shipping
- Barrier Patrol
- Fleet Supply
- Land Support/Resupply
- Sea Transport

There are also a number of activities which the RAN performs during peacetime such as coastal patrol and

natural disaster relief. These activities are not considered when determining the force structure of the RAN but are relevant here because they consume a considerable amount of the RAN's time and resources. Therefore the use of VHSVs could have significant implications for these activities.

The ability to operate at very high speeds could increase the effectiveness of the RAN in performing some of these activities, while it would have little benefit for others. Analysing the utility of speed for the performance of these activities is complicated by the fact that all of the RAN's current modes of operation have been developed for a force structure of 'conventional' naval vessels which usually operate at speeds well below 40 knots. Consequently it is important to consider that naval VHSVs would be operated much differently to conventional vessels and therefore they will have unique measures of effectiveness. A number of operational activities which are particularly suited to high speed operations are discussed here.

Sea Transport

Sea transport is a general term describing ADF activities which involve the transport by sea of personnel or equipment for strategic, tactical, operational or administrative reasons. An effective sea transport capability is important for defence operations on Australian soil as well as in foreign countries because a large proportion of Australia's northern coast is difficult, and sometimes impossible, to reach by road. Consequently in many situations sea transport is the ADF's most suitable method for transporting heavy equipment, supplies and large numbers of personnel.

Amphibious Operations

Amphibious operations are an important part of sea transport for the ADF because there are very few port facilities along the northern coastline. Consequently equipment, supplies and personnel must be loaded and unloaded directly onto the beach. In the case of an amphibious deployment a primary aim is to conduct the landing unopposed by the adversary.

Speed plays a crucial role in the success of amphibious operations. This is because the speed of deployment of the landing force from ship to shore can determine if the landing will be unopposed. Slow deployment reduces any advantage which surprise can offer to a force. It also reduces the amount of time available for the force to prepare itself once deployed. The speed of the ship to shore deployment craft is a significant factor in the time taken to deploy a force.

Australian Conditions

Sea transport operations in the north of Australia can involve large transit distances and the low speeds of advance of the RAN's smaller amphibious platforms can result in long transit times. For example the RAN's Landing Platform Amphibious (LPA) would take over two days to transit from Townsville to Darwin, while the Landing Craft Heavy (LCH) would take over six days.

After arriving at the destination the LPA cannot always approach very close to the beach due to its large draught. Consequently the smaller amphibious craft may be required to transport equipment from the LPA to the beach over considerable distances. At a maximum speed of around 10 knots, these craft require a long time to transport a large amount of equipment.

Application of VHSVs

A large reduction in transit time would increase the effectiveness of sea transport operations and provide a significant advantage to deployed forces. There is potential for some types of VHSVs to provide this advantage. The suitability of SES, hovercraft and multi-hull vessels for the transport of large amounts of equipment, vehicles and personnel is demonstrated by their widespread use by commercial ferry operators around the world. However these ferries generally operate at speeds below 50 knots, over short distances and require fully equipped port facilities for loading and unloading.

Hovercraft

Hovercraft are used as high speed, short range deployment platforms by the US Navy. The Landing Craft Air Cushion (LCAC) are designed to be transported by larger ships and then are deployed to transport equipment to the beach. Hovercraft are highly effective in this role because they are very fast and can travel directly onto the beach. They would be well suited to Australian conditions because of the sometimes long distance which equipment must be transported between an LPA and the beach. Hovercraft are not as suitable for the long transit aspect of sea transport due to their relatively short range and low cargo capacity. However their true amphibious capability would be extremely useful for amphibious operations in the north of Australia with its shallow beaches and large tidal variations.

Special Forces

The insertion and extraction of special forces for covert operations requires platforms which are can transport a small group of personnel quickly and in various conditions. This must be combined with low noise and infra red signatures to reduce the probability of detection. Small WIGs may provide an effective solution to this problem by combining the benefits of very high speed, semi-amphibious operation, low noise, low radar signature, as well as very low cost.

Mine Warfare

Sea mines have proved to be an effective weapon in all levels of conflict and the developments in their capabilities, using modern technology, have ensured that they will continue to be a significant threat to naval forces. There are significant advantages to be gained from the use of VHSVs for offensive, defensive and protective mining operations. Mine counter measure (MCM) operations are not performed effectively at high speed but in some situations it may be beneficial to deploy a MCM vessel quickly and without the need for a full escort.

Minelaying

Mines can be layed by suitably equipped surface vessels, submarines and aircraft. The main characteristics which determine the suitability of platforms for mine laying activities are:

- mine carrying capacity
- mine deployment system
- maximum range
- maximum time on task
- navigational accuracy

Most surface vessels are capable of laying mines by using cranes and davits, although the ability to lay large numbers of mines generally requires a large deck space and rails to ease their movement. Some commercial Craft of Opportunity (COOP) such as 'Roll-On Roll-Off' (RO-RO) car ferries can be quickly converted for this role with the capacity to deploy several hundred mines. This capacity for large mine payloads is the main advantage which surface vessels have when compared to submarines or aircraft.

Submarines have the ability to conduct covert minelaying operations which makes them useful for offensive mining. Their operations are limited by shallow water and by the presence of existing mine fields. Submarines are also limited to relatively low speeds when discharging mines which makes them slower than aircraft. However they can have the capacity to carry a large number of mines.

Aircraft are well suited to offensive mining operations because of their quick response time, good self-defence capability and the ability to re-sow minefields without threat from existing mines. The disadvantages of aircraft are their relative inaccuracy in positioning mines and their limited mine carrying capacity when compared to submarines or surface vessels. They can, however, be used to lay large numbers of mines relatively quickly by flying multiple sorties and reloading mines between each flight.

Some types of VHSV would be very effective for offensive mining operations. This is because they would provide quick response and retreat, similar to aircraft, but with more accurate mine positioning and a greater payload. For example a large SES with cargo capacity greater than 1000 tonnes could carry hundreds of mines.

Speed is not as important for defensive and protective mining operations because in these situations the risk of detection and the threat of attack are usually not a concern. In some cases it is strategically desirable for the mining operation to be observed by adversaries, as is clearly the case with dummy minefields.

However there are conceivable scenarios where quick response is very valuable for the laying of defensive and protective minefields. An example would be where tensions escalate rapidly and there is a need for Australia to protect a number of its off-shore resources from a threat of takeover or destruction. In this scenario there may be a limited time available for protective measures to be taken before hostile forces arrive in the area. Consequently the ability to rapidly deploy a vessel to quickly and accurately lay an extensive minefield, or a number of small minefields, would be highly valued.

This type of operation could be performed by a number of aircraft however a VHSV would be much better suited to the task because of its greater payload, endurance and accuracy. In addition a VHSV would have the ability to loiter in the area to conduct further operations if necessary.

Mine Counter Measures

Mine Counter Measure (MCM) operations are designed to counter the specific type of mines employed in an area. Mechanical mine sweeping involves towing wires behind a vessel with explosive cable cutters which cut buoyant mines free so that they float to the surface. Influence mines are triggered by the magnetic, acoustic or pressure signature caused by the passing of certain types of vessels. These are cleared by towing an array of equipment which can synthesise the characteristics of certain vessels and thus trigger these mines to detonate. Minehunter vessels use high definition, forward looking sonar systems which can locate mines so they can then be either detonated or removed.

The speed at which mine sweeping activities are conducted is partly determined by the type of equipment being used. Minesweeping arrays are designed to be towed relatively slowly through the water and would be less effective and susceptible to damage if towed at high speeds. In addition it is not sensible to tow a synthetic influence array at high speeds because it would not emulate a typical naval vessel and therefore be ineffective. Minehunting is conducted at very low speeds, typically well below 10 knots. This is necessary because when a mine-like object is detected the vessel will stop while it is examined and appropriate action is taken.

The main advantage which high speed would provide to MCM operations is the ability for very fast response and deployment. This would also reduce the requirement for protection by other vessels because a high speed MCM vessel would have an ability for high speed evasion of threats.

Some VHSV designs also offer significant advantages to mine counter measure operations due to their ability to withstand shock. Hovercraft and SES are seen as particularly suitable, due to the shock resistance offered by their air cushion. The shock resistance ability of other types of VHSV, without air cushions, has not been determined. The hulls of VHSVs are generally designed to have a small wetted area so as to decrease resistance and consequently they could be expected to suffer less shock damage from close proximity explosions. However it is conceivable that even a small blast near a vessel travelling at very high speed could make it unstable and cause the vessel to capsize or suffer significant damage.

Norwegian MCM Vessels

The Royal Norwegian Navy (RNoN) has constructed nine MCM vessels based on an SES design. While they were not designed for high speed operation, with a maximum speed of 25 kts, they provide a good indication of the suitability of VHSV designs for this type of role. The reason cited for choosing an SES design were the advantages which they provided over a comparably sized monohull:

- about 70% greater useable deck area
- greater speed and/or range for given installed power
- greater shock resistance due to lower wetted surface area
- lower acoustic and magnetic signature due to lower wetted surface area
- reduced motion in a seaway
- improved operating conditions for hull-mounted sonar

It would appear that the modification of this type of design for very high speed operation would be quite feasible with the installation of suitable power and propulsion systems. This would increase the capability of a very effective platform by allowing it to be deployed quickly.

It should be noted that the maritime environment in Norway differs significantly from Australia's and so this vessel may not be well suited to operation in Australian waters. However the performance results which the RNoN have achieved with this vessel show the potential of this type of vessel for effective MCM operations.

Coastal Patrol

The Navy has an obligation to provide 1800 days per year of patrol boat response to Australia's peacetime civil response program. This involves performing patrol and response activities in support of the Government's Coastwatch organisation.

The peacetime task of patrolling Australian waters has important legal implications. For example Australia's Economic Exclusion Zone (EEZ) must be adequately managed because otherwise the privilege may be revoked. Management of the area involves establishing presence as well as investigating and dealing with any illegal activity. This may include illegal fishing, smuggling, drug dealings or illegal immigration.

Contact Investigation

One of the roles which the RAN plays in Coastwatch activities is to respond to contacts located by aerial surveillance. This activity requires the patrol boat to speed to the location of the sighting and find the contact. Once located the contact must be boarded and investigated to determine if it is behaving illegally. Then it may be necessary to escort, or tow the vessel back to an Australian port to be dealt with by the appropriate authorities.

These activities present a challenging set of performance requirements for a vessel including:

- good seakeeping, mobility, endurance and range
- sustainability in remote areas
- quick response capability
- the ability to transport illegal vessels and crews to the mainland for legal action.

The task of responding to a report of illegal activity somewhere in Australia's EEZ could be performed more effectively with a high speed capability. This is because a fast response to an aerial surveillance report of a suspicious contact increases the chance that the contact will still be in the area when the patrol vessel arrives. If the contact is not found at the datum then a high speed platform can search the area and have a higher probability of locating the contact. Anecdotal evidence suggests that often by the time an RAN Patrol Boat reaches the datum, the contact has fled.

Operational Flexibility

Patrol tasks which involve establishing presence in an area or towing vessels to port do not generally require high speed operation. In fact in the case of towing small wooden fishing boats the patrol boat must be able to sustain very low speeds over long distances. This is because some of these boats are unstable and fragile and will sink if towed at high speed. However this is based on the conventional methods of operation which are not well suited to VHSV characteristics. Alternatives include the idea of lifting the

apprehended vessel onto the deck of the VHSV and then proceeding back to port at a moderate speed. This would only be feasible in the case of small fishing vessels, and large SES or multihull patrol vessels with large amounts of deck space. Another alternative would be to have a number of utility vessels, suitable for towing a number of vessels over large distances, which would respond to requests by VHSV patrol vessels. In this way the fast patrol vessel would locate and investigate the contact and then call a second vessel to tow it to port if necessary.

Helicopters have been shown to increase the continual response capability of an Offshore Patrol Vessel (OPV). This increased capability is provided by the high transit speed of the helicopter and its extended sensor range. However a helicopter crew have only a limited ability to take further action once a contact is located. This is because it is dangerous to deploy a boarding party from a helicopter onto a small vessel and also there is no way for a helicopter to tow a vessel to the mainland. Consequently the helicopter must wait for the patrol vessel to arrive before any further action is taken. However in some situations the helicopter would not have sufficient endurance to wait this long and so it would have to fly back towards the patrol vessel, thus allowing the contact to escape.

Hypothetical Scenario

To illustrate the advantage which speed provides, consider the scenario in which a surveillance aircraft reports a vessel acting suspiciously near the boundaries of our EEZ, about 200 nm off the coast near Cairns. If one of the RAN's FREMANTLE Class Patrol Boats responds immediately at its maximum sustainable speed of 24 knots then it would take over 8 hours to reach the datum. In this time even a slow fishing vessel could escape well outside the EEZ and avoid detection. Now if the contact was investigated by a VHSV patrol vessel, such as an SES, with a sustainable speed of 80 knots then it could reach the datum in less than three hours. Even if the contact had left the area a VHSV patrol vessel could conduct a search of the area quickly and have a high probability of detection.

A helicopter or small WIG, cruising at 140 knots, would reach the datum in less than one and a half hours. Both platforms could then perform a search for the contact, with the helicopter having an advantage due to its ability to employ sensors at a greater altitude than a WIG. However the helicopter would then have to wait for its patrol vessel to arrive to take further action. In this example the helicopter would have to wait at least six hours, which would exceed the endurance of most helicopters. The WIG could immediately land and deploy a boarding party in a RIB to investigate further. If necessary the boarding party could then take command of the vessel and take it to the mainland. The WIG could either escort the vessel back to the mainland at low speed or be towed by the vessel in order to conserve fuel and allow its full crew to board the vessel for maximum security.

Lessons Learned from Other Navies

Very few naval vessels currently operating around the world are designed for very high speeds. According to Janes Fighting Ships 1994/95 the only vessels capable of speeds over 55 knots are the hovercraft used by a number of countries including USA, Canada, China and Russia. These vessels are mainly used for patrol duties and amphibious deployment of troops.

A number of countries operate Fast Attack Craft (FAC) which are generally either high speed monohull or hydrofoil designs which are capable of speeds up to 55 knots. These small, fast craft are armed with torpedoes or missiles and provide a fast, manoeuvrable platform for coastal defence in narrow, sheltered waters and archipelagic regions. They also provide a relatively low cost alternative to large surface combatants for nations with limited defence budgets.

The US Navy has been interested in advanced vessels since the 1960's when they initiated research and development programs into hovercraft and SES designs. These programs have seen the construction, testing, and use of hydrofoils, hovercraft and SES. The only type of high speed vessel still in USN service are the hovercrafts used for amphibious deployment.

The old USSR conducted an extensive development program during the Cold War which saw a number of huge 'ekranoplan' (WIG) craft operated on the Caspian Sea by the Russian Navy. These were designed for various applications ranging from missile attack craft to emergency response craft. Reports suggest that these large ekranoplans were inefficient and impractical and while they represent an impressive engineering achievement, they were not a feasible design.

A trend is emerging for the design of new surface combatants which emphasises stealth and efficiency, rather than high speed capabilities. An example of this is the Trimaran Frigate design being considered for an ASW role in the United Kingdom. An important feature of this design is its low drag which in theory could be used to either maximise efficiency or speed. This vessel is being designed for maximum efficiency and consequently it only has a top speed of around 30 knots.

An important factor in the adoption of new capabilities in any country is its force development process. The development of even the most cost effective, capability-enhancing procurement can be

prevented if the bureaucratic paths are not satisfied. Insufficient funds and poor risk management can also stunt development. An example of this is Canada's hydrofoil project which was abandoned after 11 years of development and over $50 million of government funds (Lynch, 1983). This project involved the design, construction and testing of a hydrofoil for ASW use which combined sprint speeds of over 50 knots with excellent seakeeping and low speed performance.

A country's naval doctrine can also discourage the use of VHSVs for defence activities. A good example of this is the United States Navy (USN) which is characterised by its relatively large budget and vast area of interest. A possible reason for the USN not employing VHSVs is that they have sufficient size to position vessels all around their own coast, and also to position bases near areas of interest all around the world. Another significant factor is the USN's use of aircraft carriers which enable the extremely high speed of aircraft to be deployed anywhere. Therefore the USN's use of VHSVs is limited to amphibious deployment operations where a high speed, short range capability provides a significant advantage.

The defence of Australia is conducted in a unique environment which is characterised by a large coastline, large areas of territorial water and large distances between northern ports, as well as large areas of shallow and uncharted water. Clearly the defence of Australia is sufficiently unique so as to justify a thorough analysis into the use of VHSVs by the RAN.

Conclusions

The operation of VHSVs in Australia's areas of interest has some important implications for the RAN's operations and responsibilities in the future. Also the ability to operate at very high speeds offers the RAN some valuable capabilities which could improve its effectiveness. High speed does not provide a significant advantage in every area of naval activity however there are a number of areas in which VHSVs would be particularly well suited.

In order to obtain the greatest advantage from VHSVs, they would be operated quite differently from current naval operations. This would involve shifting the paradigm of conventional naval thinking and changing the way in which the RAN does business. The implementation of this change would not be trivial, however the RAN must acknowledge the potential benefits of developing a very high speed capability. It must also accept that in the near future the pace of business in our maritime environment will increase significantly which threatens to leave the RAN behind, literally.

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Andrew Williamson completed a Bachelor of Economics and a Bachelor of Engineering with Honours in Systems Engineering at the Australian National University in 1995. He then commenced his working life with the Department of Defence in the Naval Engineering Services Branch of the Naval Materiel Division. After gaining experience working on various Combat Systems and Communications projects Andrew was seconded to the Navy's Force Development Branch. Here he spent six months conducting a Strategic Technology Study into the benefits and implications for the RAN of very high speed vessels. The outcomes of this study were presented to various areas within defence and in Australia's ship building industry so as to raise the profile of an emerging technology which is seen to have significant implications for the RAN.

Part Two of a series. Part One by LCDR Alan Hinge, appeared in the Nov/Dec 96 issue of *JANI*.

The RMA for Navies

Commander Richard Jackson, RNZN

Introduction

The Revolution in Military Affairs has been described as recognising 'that the character of conflict has dramatically changed' and thus 'radical changes in ... doctrine and organisation are needed'. Alan Hinge used the example of the blitzkrieg, and argued that this method of operations, so dramatically different in May 1940, was in fact the 'end product of along process of ... development ... started by the Prussians after ... 1806'[1].

Alan went on to discuss the downside of the military information revolution – challenges in maintaining programming integrity, data security, complexity and costs of modern technology, the debilitating effect on command and coordination due to the complexity and (ironically) the availability of too much information. Thus, he points out, there is an important need to understand the actual target system – especially in unconventional or low intensity conflict. Hence 'remoulding our ... organisations and processes' should be the vital focus for future force development[2].

Of course with the instigation of the Defence Reform Program, remoulding our organisations is already occupying most of our days. But is the DRP really focussed on the RMA of the information revolution, or is it in fact a reflection of the traditional peacetime doctrine of cutting the armed forces? Will the reformed structure of the ADF improve our management of battlefield information, will it improve our understanding of a future opponent's target system?

And, how will the RMA affect naval planners? Alan asks at the conclusion of his essay 'what can we take aboard to maintain or increase naval capabilities in environments of increasing austerity?' And that is the key issue of any naval RMA – what new technology or doctrine can we take to sea so as to counter an enemy's maritime force?

RMAs at Sea

The RAN today reflects the impact of three previous naval RMAs. Let me outline them.

For most of modern history sea warfare has been dominated by the battleship, the broadside and line-of-battle tactics. But this century two technologies each caused a revolution in naval warfare – the submarine and the aircraft. Yet revolution was hardly the word used in 1906, as few people could see the military potential of aircraft at all, while the submarine was dismissed as a 'damned un-English weapon'.

In fact the revolution wrought by submarines was quick to unfold – during 1914 (as James Goldrick points out in his book *The King's Ships were at Sea*) the German U-boats rapidly constrained the Grand Fleet's freedom of the seas. By 1918 the pattern of submarine warfare was set, with merchant ships as the key target and escort-of-convoy proven as the primary operational concept to counter the new threat. More importantly the unrestricted U boat campaign was actually targeting the British economy, so ASW had to become the central concern of the British naval war, ahead of the desire for a decisive battle between he battle fleets.

This revolution in naval warfare was then submerged (forgive the pun) by the post-Great War demands of maritime peacekeeping, arms control and budge cuts, while the technological solution of Asdic (sonar) was assumed to be sufficient answer to the submarine threat. In fact this RMA (of counter-submarine warfare) was incomplete, because of organisational and doctrinal failures. In particular the formation of an independent RAF meant that the enormous contribution of RNAS aircraft to the defence of convoys was almost completely lost to british naval thought.

In contrast, the aviation revolution meant that the Royal Navy by 1918 had flat deck aircraft carriers, a capable torpedo bomber (the Sopworth Cuckoo) and a plant to attack the High Seas Fleet in its harbours. The dreadnoughts of the Grand Fleet were unable to force a decisive battle, but advances in aviation gave the RN the technological means to strike at the German Navy, while under Beatty, the Grand Fleet was innovative enough to give the new doctrine a go. In fact the Armistice intervened before the planned operation could be launched[3].

Thus after World War One the new technologies of air power were not proven as revolutionising naval warfare, while key organisational and doctrinal components of the submarine revolution were forgotten, so the primacy of the line-of-battle in naval warfare was still unchallenged.

HMS Dreadnought, incidentally, did not represent an RMA since the new class of battleships reflected the existing doctrine of line-of-battle and the centrally controlled fleet. The line-of-battle remained, in fact, as a major operational concept for fleet operations until late 1944 – Admiral Spruance separated his battleships from the carrier task groups during the Battle of the Philippine Sea in anticipation of a Japanese night surface attach, while later at Leyte Gulf, the Seventh Fleet line-of-battle was crucial to the defence of the beach head. And Halsey's failure to form a line-of-battle off San Bernadino Strait remains one of the great 'what if's' of naval history.

What handicapped the british line-of-battle in WWII, and prevented a decisive battle, was their communications doctrine. The contemporary communications system of flags proved to be easily overwhelmed by the speed and distances apart of the units making up the huge battle fleet. It was the organisational and doctrinal issues for naval communications that handicapped Jellicoe at Jutland. Dr Andrew Gordon's recent book 'The Rules of the Game' provides an excellent insight into the British failure to develop appropriate communications doctrine, when the available communications system proved to the inadequate for rigid, centralised control of the Grand Fleet. The British did learn from this error, and their doctrine of battle fleet operations was much improved for WWII.

Of course WWII and the Luftwaffe brought the aviation RMA back to the forefront of naval thought. Even so, from 1940 the revolution wrought by airpower at sea took four years to develop. In 1942 the RN pioneered radar-assisted shipborne control of the fleet's fighters. It wasn't until late 1943 that the USN adopted multi-carrier circular formations (and another year for the RN to follow suit). Only by 1944 were all the elements in place for naval warfare to at last move on from he line-of-battle and operate with the carrier as the primary focus for fleet operations.

Then in 1945 the submarine RMA shifted back in favour of the submarine. Germany's high speed U-boats (which rendered the ASW tactics of the Battle of the Atlantic obsolete) were followed in 1954 by the SSN. The nuclear powered submarine has since become the new capital ship (for the few nations that can afford them) and in future conflict (as indicated by the Falklands War) will obviously play a major part in maritime operations.

Impact Downunder

Thus tow RMAs, the development of naval aviation and of submarines, were the primary influence on navies in the Cold War. The RAN and RNZN, for example, were primarily ASW navies, while the Australian carrier fleet also claimed a (limited) projection of power role – one that could be operated from HMAS Melbourne. Even the RNZN has (until 1962) a minor contribution for carrier-centred naval operations, with its anti-aircraft cruisers, which in the Australasian context provided a capability missing from the RAN.

Another naval RMA

But it was a new weapon that forced the next round of doctrinal changes on the western navies – the surface to surface anti-ship cruise missile. The sinking of the Eilat in 1967, followed by the Israeli naval successes in their 1973 war, made the SSM central to surface naval operations. The new weapons underlined the Soviet Navy's doctrine of deploying and using anti-ship missiles on a massive scale. But it was not until the loss of HMS Sheffield in 1982 to an Exocet, that western navies really comprehended the alarming potency of these weapons. Again the changes were not instantaneous, nor always visible, but through the eighties the focus of fleet defence shifted from the prospect of air attack to the more formidable task of SSM defence.

The SSM is now the primary weapon of most navies across our region, and as the Argentines proved in the Falklands, it is possible to jury rig such missiles to operate from improvised launchers. Joel Cayford, a New Zealand defence commentator and former employee of Hollandsignaal in the Netherlands, warns that missile-armed fishing boats could form a surprise threat in the crowded seas of the South East Asian archipelago. Professor Andrew Mack is another who would echo that view.

Hence the new importance of the frigate and helicopter combination; a Seahawk or a Sea Sprite, armed with Penguins or similar missiles, can detect, identify and kill missile-armed craft at ranges that protect the helo's mothership. The combination of frigate and helo, important in the Falklands, was proven by the RN against the Iraqi Navy during the Gulf War. So our doctrines of surface warfare have been revolutionised, after decades of focus on ASW or AAW. Perhaps the next step is to fill the helicopter hangar on board with half a dozen or so UAVs and hence take our own LRMP force to sea?[4]

The RAN today (and similarly, the RNZN) is a product of the submarine, aviation and anti-ship missile revolutions. These were primarily technological revolutions, but they also forced changes in doctrine and organisation to Australia's Navy. Naval officers now find themselves in a new period of maritime peacekeeping, arms control and budget cuts (does this sound like the 1920s?)

What place does the information revolution actually have in a Navy enduring fiscally-driven reorganisation? The ADF's enthusiasm for the

'Revolution in Military Affairs' reflects the wider reality of the information and communications revolution that is transforming business and entertainment. Out in the commercial world we are all familiar with ATMs, EFTPOS transactions and telephone banking; indeed we put our every day financial needs into the hands of a far reaching computer network – with hardly any personal concern. Similarly we take for granted that the TV in our homes will provide us with pictures and voice from yachts in the Southern Ocean, or from astronauts on orbit.

Over rated?

Yet in a military context, there are some voices who warn that the information revolution is over rated. Professor Laurence Freedman notes that information warfare has always been central to military development, but says 'war is not a virtual thing ... but intensely physical'. The information revolution, he points out, does not create a situation in which only information matters. 'Territory, prosperity, identity, order and values still matter and provide the ultimate tests for war's success', Freedman concludes[5].

One British destroyer captain has recently described how his ship gained six different and incompatible computer systems, while he was also expected to appreciate a new desktop computer-based signal network, which – if used as designed – would have kept him at his desk about ten hours a day (he quickly reverted to a Signal Yeoman with a clipboard, while he returned to his Bridge)[6]. This experience bears out Andrew Gordon's thesis in 'The Rules of the Game', that communications specialists like to deliver systems with more and more capacity for delivering information, regardless of the ability of the receiver to absorb an make sense of the incoming messages.

The real impetus for the information revolution is in fact from land forces, where front line communications had remained primitive, until the Gulf War. Now the individual soldier can benefit from, for example, GOS and cell-phone type technology. The ability of land and joint commanders to have a detailed picture of events at the front line ought lead to better battle management for soldiers. Yet this may complicate matters – too much information can act as a brake on decision making, Dr Gordon warns.

The gaining and the high-tech handling of information has been a specific characteristic of naval operations, since the development of flag signals. The revolution of the ship-board plotting organisation started (in the RN) with the lessons learned from Jutland and was accelerated by the need for radar control of carrier-based fighters. Navies have been in the forefront of high capacity computer-based action data systems and so today the addition of JOTS and similar systems does not represent a doctrinal change, rather just an increase in t he array of information available in the ops room.

But little of this is new to PWO – the information revolution is in fact simply evolution for ships at sea. The while concept of the Ops Room is to place information into its proper context – the AAW picture, the AS plot or a theatre wide picture. For the sea-going fleet the information is not a conceptual change. Rather the change will have this impact on the higher headquarters – in HQ AST and HQADF. The challenge of the RAN will be to train those headquarters to stay 'hands-off'; to resist the impulse to use available tactical level information to intervene in he tactical commanders' decisions.

The information revolution won't alter the RANs role in the defence of Australia, rather it will dramatically alter the shore headquarters' ability to look over the shoulder of the commander at sea. It is for that reason, the RAN urgently needs to develop and articulate its doctrine. Andrew Gordon (whose book, you will have noticed, I really appreciated) concludes that the best communications system is a really well understood and robust doctrine. Doctrine is a word that gets the hackles up for some naval officers, yet the RAN has a doctrine – it just doesn't articulate it well. (In contrast the RNZN has made the attempt – albeit focussed on *force structure rationale rather than warfighting* concepts). Hence the RAN has to put up with bumper-sticker thinking that suggests DDGs are just floating radar posts to fill gaps in RAAF radar coverage, or that naval operations means 'darkening the horizon with destroyers'.

In fact, in an oceanic region that stretches from the middle of the Indian Ocean across to the Cook islands, the RAN and RNZN have a responsibility for maritime operations across an enormous region. There are territories, off shore resources, maritime zones and sovereign responsibilities for both Australia and New Zealand that can only be defended from the sea. There is seaborne trade from many nations crossing this vast area. Therefore in time of tension or conflict, or two navies will be conducting naval operations using proven doctrinal concepts, such as naval control of shipping and escort of convoy; offensive submarine patrols; aerial surveillance and concentrated task forces, to bring maritime power to bear as the situation demands.

The information revolution should mean that our higher headquarters are well informed, but it does nothing to address the limited numbers of ships and aircraft available to actually defend our two nations. Hence the importance of a well understood doctrine, so our ships and maritime aircraft are not wasted in penny packets shared out among joint commanders, nor so rigidly controlled from the centre that they

cannot react in time. The challenge for the ADF is to develop a command doctrine that can benefit from he information revolution, while avoiding the dangers of back-seat driving.

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The ANI Silver Medallion winning essay for RAN Staff Course 37/97

An Essay on the Direction of Australia's Maritime Strategy

Lieutenant Commander G. J. Sammut, RAN

Even strategic plans, and much more force structure and organisation, must spring from a nation's own character, interests and resources.
Rear Admiral J.R. Hill

Introduction

The dramatic transformation in world affairs brought about by the end of the Cold War witnessed a fundamental change in the global security environment. During the war, the bipolar confrontation of the superpowers, gave rise to the development of comprehensive strategies for the employment of military forces. These included the maritime strategies of naval powers, which were readily shaped to complement broader national military strategies.[1] However, these strategies held little relevance following the dissolution of the well-defined Soviet threat.

What followed was an effort to redefine the role of the military, including naval forces. New national security policies demanded new supporting military strategies and, subsequently, the development of new maritime component strategies. This process has been responsible for another phase in the on-going evolution of maritime strategy since its inception as a field of study in the late nineteenth century. It could be argued that this process had the greatest impact on the United States Navy (USN). In 1992, the USN adopted a new strategic concept that replaced a traditional emphasis on sea control with a focus on power projection in the littoral.

Less apparent has been any change in the approach to the employment of Australia's naval forces since the end of the Cold War. As to whether Australia has a maritime strategy is a subject of debate; however, an ability to defend the country across the sea-air gap to the north is generally accepted as the guiding strategic concept since priority was given to self-reliant defence in the mid-1970s. The aim of this essay is to determine whether the direction of the USN's newly evolved maritime strategy holds any relevance for Australia's naval forces.

Maritime Strategy Principles

Before proceeding with any analysis, it is important to highlight two fundamental principles of maritime strategy. The first relates to strategy in general, from which, maritime strategy derives. Liddell Hart defined strategy as, 'the art of distributing and applying military means to fulfil the ends of policy'.[2] This definition clarifies the purpose of strategy as providing the military options that support national policy in the conduct of war. Furthermore, it subjugates the objectives of military strategy to the aim of the state. Logically, it follows that maritime strategy should support the objectives of military strategy. This means that there should be alignment between the aim of national security policy, the objectives of supporting military strategy, and the plans embodied in the component maritime strategy.

The second principle concerns the enduring significance of sea control in maritime strategy. Experiences in war, technological development, changes in national interests, and shifts in the balance of power have all contributed to the evolution of maritime strategy over time. In response to recent changes in international affairs, contemporary maritime strategy has emerged to reflect what has been described as a spectrum of naval tasks.[3] These tasks have been categorised into war-fighting, naval diplomacy, and constabulary roles. While there are no clear demarcations between the roles, it is important to realise that the diplomatic and constabulary roles of a navy are predicated on its war-fighting or military capacity. 'The military capacity of a navy to use force in the event of war is the foundation upon which the diplomatic and policing roles rest.'[4] This leads to the deduction that the planned employment of naval forces during periods of conflict will largely influence the shape of a particular navy's maritime strategy.

Sir Julian Corbett originally proposed that, 'the object of naval warfare must always be directly or indirectly either to secure the command of the sea or to prevent the enemy from securing it'.[5] Though the requirement to achieve command of the sea has been refined to a need for sea control, this principle still applies. 'The fundamental focus of the military element in maritime strategy centres on the control of human activity at sea... There are two parts to this: establishing sea

control against opposition and using control once it has been established.'[6]

Therefore, while it may appear to be a gross simplification, maritime strategy may be distilled into the methods of establishing and exploiting sea control in the support of national security policies and interests. This concept has been embodied in the current definition of sea control which has been divided into the complementary components of sea assertion, which is defined as the ability to use the sea for one's own purposes, and sea denial, which attempts to prevent the enemy from using the sea.

US Maritime Strategy

It is important to understand the USN's new maritime strategy before discussing its relevance to Australia's naval forces. The framework for the strategy was announced in the white paper ... *From the Sea* in September 1992. Although the concept was updated in the new paper Forward ... *From the Sea* in 1994, the strategic direction of the original document remained unaltered.

Background

An overview of the USN's current maritime strategy would not be complete without a brief discussion on its background and development. The demise of the Soviet threat generated a shift in US national security strategy from the global containment of the Soviet Union to a focus on regional contingencies which threatened national interests. President George Bush outlined a future national security strategy in August 1990. It comprised four elements: deterrence (conventional and nuclear), forward presence, crisis response, and force reconstitution. The first three elements had been the guiding precepts of the former white paper *Maritime Strategy*, which had been developed in 1982 to confront the Soviet Navy in battle for supremacy of the sea lanes.[7] However, their application in the new world order of the 1990s had an entirely different meaning. Force reconstitution referred to the process of timely force expansion in response to a possible resurgence of Soviet power.

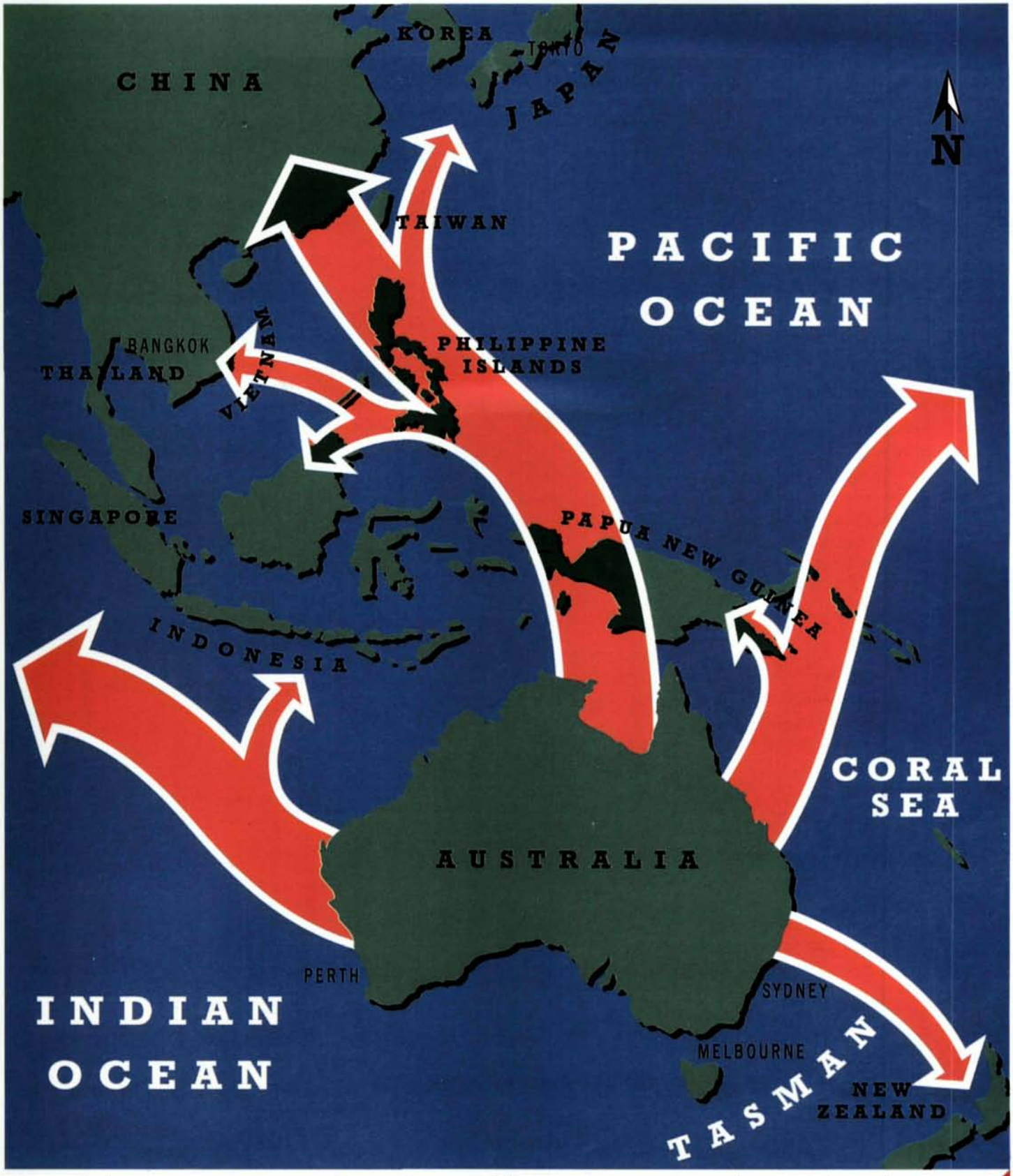
In a response to a directive from the Secretary of the Navy, a forum known as the Naval Forces Capabilities Planning Effort (NFCPE) was convened in 1991 to, 'assess the naval capabilities the United States would need as it entered the next century'.[8] The result was the white paper ... *From the Sea*. In developing the white paper, the NFCPE deliberated over a number of issues which were considered to be the guiding factors in defining the direction an evolving maritime strategy would need to take.[9]

The NFCPE concluded that the core functions of US naval forces (which includes the Navy and the Marine Corps) had not changed following the end of the Cold War. What had changed was the effort required to exert 'effective military force' in response to the emerging spectrum of conflicts likely to involve US interests. While less military force was required to combat the diminished threat of global thermonuclear war, there was, 'a rise in the magnitude of effort needed to deal with major regional opponents, either to provide credible presence and reaction forces or to act decisively in conflicts, particularly in the two or three regions where long-term, large-scale, and well-equipped opposition was likely'.[10] This increase in effort was attributed to two factors: the reduced margin of superiority over regional opponents previously enjoyed by the US and the fact that regional operations would take place in the complex littoral zone, which posed a significant risk to naval forces.

Littoral Strategy and Sea Control

The synthesis of conclusions drawn from the consideration of all guiding factors led the NFCPE to define a post-Cold War need for a flexible littoral strategy. The strategy was to be implemented by a naval force with specified capabilities in accordance with supporting operational level strategies and tactics. This strategic concept was articulated in the white paper, which announced the new direction of naval forces as providing the nation: naval expeditionary forces – shaped for joint operations – operating forward from the sea – tailored for national needs. This direction was chosen to shape US naval forces to respond to a range of regional crises, capitalising on the forces' qualities of reach, flexibility, independence, and freedom of manoeuvre. By operating forward, naval forces would also have an ability to establish presence around the globe. Finally, forces would be structured to participate in joint operations with the US Army and Air Force, both of which were more likely to be involved in conflicts in littoral regions.

This direction, with its emphasis on littoral operations, differed markedly from former USN strategy, which had focused on blue water operations and the establishment of sea control on the high seas. 'Our ability to command the seas in areas where we anticipate future operations allows us to resize our naval forces and to concentrate more on capabilities required in the complex operating environment of the "littoral", or coastlines, of the earth. ... This strategic direction, derived from the National Security Strategy, represents a fundamental shift away from open-ocean war-fighting on the sea toward joint operations conducted from the sea.'[11] It is important to realise, however, that this did not represent an assumption that sea control had been 'won'. While the means of exploiting control had changed, the need to establish sea control remained. ... *From the Sea* recognised that there had been a reduction in the effort required to



secure sea control and an increase in the effort required to exploit sea control. This was because the US was no longer opposed by an adversary of similar size and ability on the high seas, but faced an increasingly complex task in operating in coastal regions.

To go further, the white paper openly acknowledged the continued need to gain sea control. It defined the littoral as comprising a seaward segment and landward segment of the area of activity. Within the seaward segment is the area from the open ocean to the shore in the region of conflict. The paper stated that this segment, 'must be controlled to support operations ashore'.[12] This requirement was amplified in the definition of 'battlespace dominance', one of the key capabilities identified by the white paper as being necessary to support the new strategy. Battlespace refers to the sea, land and air environments in which operations are conducted. Battlespace dominance is the condition which allows a force to exert command and control, and serves as the prerequisite for the projection of power. Quite obviously, battlespace dominance encompasses the concept of sea control.

Capabilities

It is also worth considering the capabilities outlined in ... *From the Sea* believed necessary to implement the strategic concept put forward. In addition to battlespace dominance, three other key capabilities were identified: command, control, and surveillance; power projection; and force sustainment. The on-going development of command and control arrangements and surveillance capabilities is a issue familiar to most. Power projection and force sustainment, however, have specific meanings in relation to littoral warfare. Power projection embodies the extensive array of sea-based units required in the application of force ashore in the effort to expand battlespace dominance. It involves the delivery of ordnance, air power, and land forces across the sea-land divide. Force sustainment encompasses the extensive and varied logistical requirements of littoral warfare. This includes sealift, replenishment, forward maintenance facilities and forward supply bases. It also imposes the requirement to secure the lines of communication over which logistical support is delivered. The vast resources required to comprehensively develop such capabilities has forced the USN to focus on the deficiencies in its existing force structure and doctrine.

Summary

There are a number of significant points to note from this brief overview of the USN's new strategy. The first is its relevance to the US national security strategy. Indeed, within the introduction of ... *From the Sea* is the commitment to make naval forces 'full participants' in the principal elements of the national security strategy announced by the President.[13] The second point to note is that the new strategic direction for naval forces does not disregard the need to secure sea control in favour of pursuing a littoral strategy. Sea control, which must be contested, is still identified as the essential precondition for the prosecution of littoral operations. The paper simply recognises the reduction in effort required to establish sea control and the increase in effort required to exploit sea control. The third point is that the effort required to pursue operations in the littoral requires extensive capabilities that even the US has yet to completely develop. 'Mastery of the littoral should not be presumed. It does not derive directly from command of the high seas. It is an objective which [sic] requires our focused skills and resources.'[14]

Relevance to Australia's Maritime Strategy

The relevance of the USN's new strategic concept to Australia needs to be considered from at least two perspectives. Before determining if Australian naval forces can adopt a power projection strategy, the question of whether such a strategy should be adopted needs to be addressed. For the naval planner, the answer to this question lies in higher strategic guidance, which is derived from Australia's national security policy and the national approach to regional security. As to whether Australian naval forces are able to assume sea control will be 'won', in favour of pursuing a littoral strategy, requires careful consideration of current capabilities.

Australia's National Security Policy

A discussion on current national security policy is fraught with danger at a time when defence and foreign policy reviews are being undertaken. Nevertheless, the highest and latest strategic guidance on the employment of Australian military forces appears in the *Strategic Review 1993* and is amplified in the 1994 defence white paper *Defending Australia*. Both documents identified the defence of Australia as the focus of the defence planning effort and accord capabilities for national defence the highest priority. This direction stems from the shift to defence self-reliance, which was originally adopted in the 1970s. Self-reliance recognises that Australia should be able to conduct the essential combat and combat-related tasks considered vital for national independence.

The proposed strategy has been titled 'Defence-in-Depth.' 'This strategy ... give[s] priority to meeting credible levels of threat by presenting an adversary with a comprehensive array of military capabilities, capable of independent defensive and offensive operations in the sea-air gap to our north and throughout Australian territory.'[15] The elements of the

strategy of relevance to naval forces are: avoidance and resolution of conflict on favourable terms by controlling the sea-air gap, including key SLOCs; maintaining freedom of manoeuvre; providing flexible options to engage the enemy; and sustained air, sea, and land operations.

Such prescriptive strategic guidance makes it quite apparent the thrust of a supporting maritime strategy should be sea control, which emphasises war-fighting on the sea. This is not, however, an attempt to match the terminology of maritime strategy with that contained in guidance. The role of maritime strategy in the defence of a nation was identified by Corbett. 'An invasion must always be an attempt over an uncommanded sea. ... If we have gained complete command, no invasion can take place, nor will it be attempted.'[16] In Australia's case, the requirement for sea control would be most important within the sea-air gap which lies across the northern approaches. Implicitly, such control would preserve the use northern waters for national purposes and deny an adversary access to pursue hostile intentions. Furthermore, control would be the prerequisite for the defeat of an offensive capability before it reached Australian shores. Within the strategic guidance, it is equally obvious that there is no defined requirement for an ability to project power and sustain offensive operations ashore from the sea. The exception to this is the prescribed capability of strategic strike; however, in Australia's case, this is limited to the delivery of ordnance alone and falls far short of the US definition of littoral operations.

Thus, before any assumptions can be made as to whether Australian naval forces can focus on power projection and littoral operations, it must be observed that there is no strategic requirement to do so. Under current strategic guidance, the primary role of Australian naval forces is sea control. In the definition of the term, this would involve denying use of the sea-air gap to a potential aggressor and retaining use of the Australian northern waters for national purposes.

Australia's Approach to Regional Security

The change in direction of US maritime strategy was the result of a shift in the national security strategy towards a focus on regional contingencies that impacted on national interests. Therefore, it is instructive to consider Australia's approach to regional security and its implications for maritime strategy.

Australia's approach to regional security can be summarised in the term 'regional engagement'. This concept was explained in a Ministerial Statement by the Minister for Foreign Affairs and Trade in December 1989. While recognising that military capabilities would remain essential, the resort to force would be against the national interest. In view of the fact that a recourse to military force required a motivation, an intention, and a capability, efforts to diffuse motivation and intention would aid security. The best means of doing this was identified as substantial and mutually beneficial linkages. 'Thus, for reasons of national security, Australia [needed] to develop more substantial linkages with its neighbours.'[17]

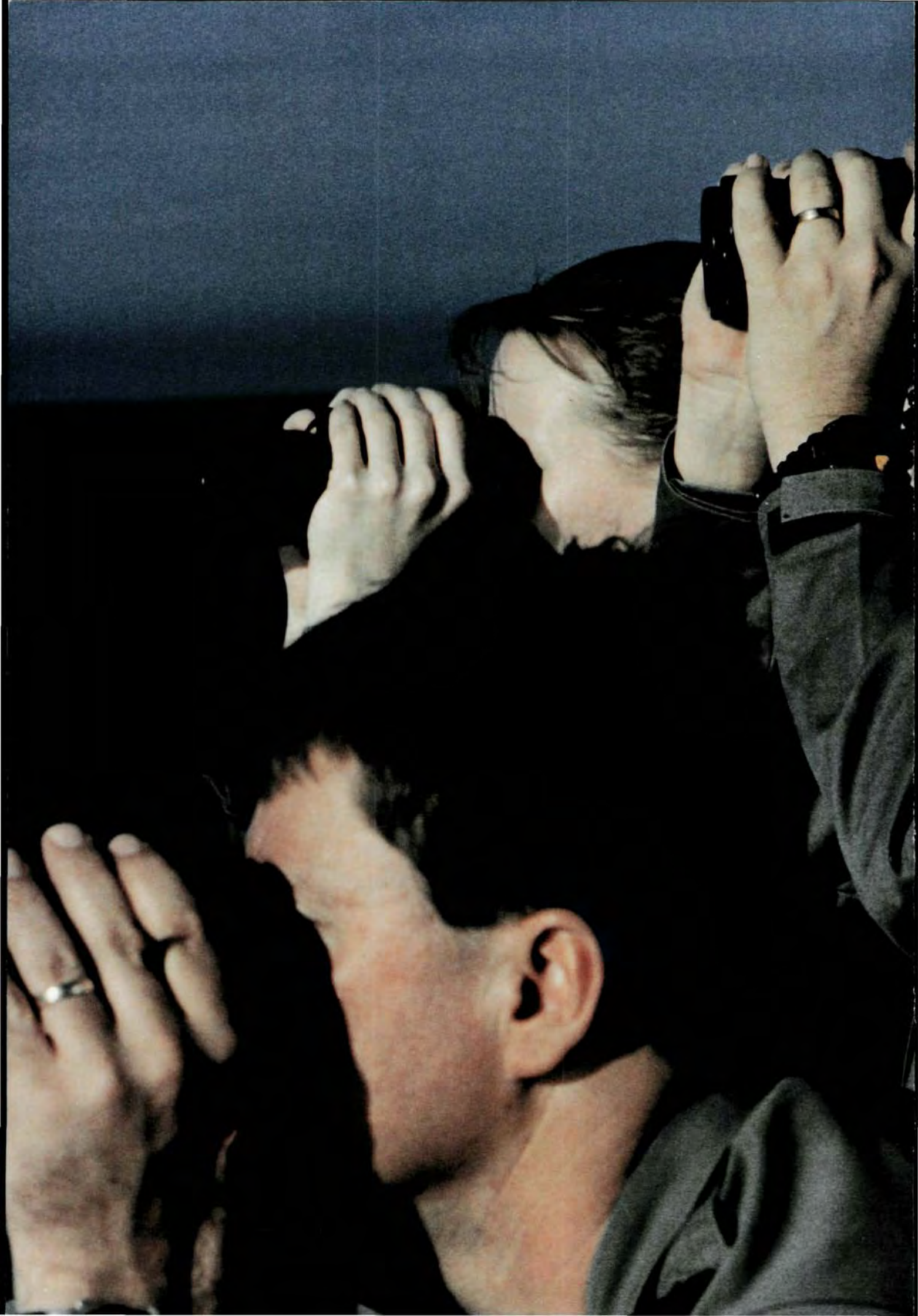
The concept of regional engagement was expanded in Defending Australia. This document made a commitment to, 'develop dialogue on strategic and defence issues with key countries of the region, and ... aim to promote an environment which sustains a stable pattern of strategic relationships and avoids destabilising strategic competition.'[18] Such a commitment leaves little room for the development of power projection capabilities required in the conduct of littoral operations. An effort by Australia to procure such a capability in the current threat-free environment would upset the strategic relationships with regional countries and has the potential to lead to a growth in offensive capabilities within the region.

Once again, a maritime strategy that includes a capability to conduct offensive littoral operations would be misaligned with higher strategic guidance. The strategic guidance for ensuring regional security calls for transparency, dialogue, multilateral exercises, shared strategic interests, and cooperative security approaches. Furthermore, while such measures are successful, the need to develop the expensive power projection capability required to protect any interests far from Australian shores remains unwarranted.

Current Capabilities

The final point to discuss relates to current capabilities. If Australian naval planners chose to ignore strategic guidance (as was apparently the case in the 1970s[19]), could the assumption be made that naval forces were in a position to pursue a littoral strategy?

As previously mentioned, the decision of the USN to concentrate on littoral operations was predicated on the ability to establish sea control in the likely areas of operation. This was hardly an assumption on the part of US naval forces. During the Cold War, US naval strategy was committed to wrestling sea control from the Soviet Navy. Consequently, the USN was structured to combat the naval might of a rival superpower. Given that the US had expected to succeed in achieving the sea control it sought against such a powerful adversary, it followed that the USN would have little difficulty in winning the contest for sea control against the potential, but significantly smaller, adversaries who could emerge as a threat to US interests. Also, the extent of sea control required in pursuing littoral operations was vastly less that the global magnitude considered essential during the Cold War. Accordingly, the US was confident of securing sea control in distant regions which was a prerequisite for littoral operations in those areas.



Facing the future – HMAS Protector's *Bridge Team.*

Clearly, Australian naval forces are not in the same position for a number of reasons. The first is the limited resources available for defence. Admiral Hill wrote 'medium powers will find much they need to safeguard, much they would like to do, at sea in strategic terms – and all too few resources with which to do it'.[20] In Australia's case, this has resulted in a stringent list of defence priorities which has necessarily restricted capabilities to those required for national defence. Consequently, defence strategy 'emphasises a capacity to operate independently across Australia, its offshore territories and proximate ocean areas'.[21] This necessarily precludes the scope to develop the ability to assert sea control in regions remote from Australia. One could even argue that, given the vast size of the sea-air gap, there is still much to do in developing the capabilities to establish sea control in Australia's own littoral, let alone in distant regions.

The second reason as to why Australian naval forces cannot assume an ability to win sea control for subsequent littoral operations is related to the current force structure. Though Australia has bluewater units, it does not have a bluewater navy capable of asserting sea control beyond the reach of its shore-based aircraft. This is evident from the full definition of sea control. 'Sea control comprises control of the surface and subsurface environments and of the airspace above the area of control.'[22] Unless a favourable air situation or air superiority can be established, sea control will not be won. The consequences of not controlling the airspace were witnessed during the Falklands War of 1982. Although the British air defence system eventually prevailed, Argentine air attacks inflicted significant damage on the Task Force, particularly during the landings (or littoral operations) at San Carlos and Bluff Cove. Without attempting to suggest that a carrier is appropriate to Australia's defence needs, Australian naval operations have been tied to land-based air cover since the loss of an organic fixed-wing capability in the late 1970s. Consequently, independent naval operations have been limited in scope since. Australian naval forces remain without the means to effectively control the airspace in their own right and hence cannot establish sea control in regions where friendly air support cannot be provided. Furthermore, as the nature of land-based air support becomes more transitory the further from the coast naval forces operate, the prospects of securing sea control diminish with distance.

Another reason which mitigates against a shift in focus from sea control is the growing capabilities of regional defence forces. The difficulties in establishing sea control already highlighted are becoming more complex as the self-defence capabilities of countries within the Australia's region of interest expand. Economic growth within the region has enabled many countries to focus on external defence efforts and, in particular, navies. While this has seen the procurement of a number of older and less capable units, the sophistication of regional defence forces is increasing. Many now include modern combat aircraft, capable anti-ship missile systems, and submarines. There is also interest among some countries in developing power projection capabilities – Thailand has recently purchased a carrier and China is also investigating procurement of a Russian carrier. While such developments are not considered immediately threatening, they do represent a challenge to the ability of Australian naval forces to secure sea control. Consequently, there will be an on-going requirement to concentrate on sea control as the primary role of national naval forces.

Australian naval forces are intended for sea control in the sea-air gap in the northern approaches to the country. Current force structure would also suggest that the ability to establish sea control does not extend to great distances beyond Australia's own littoral regions. It would be unwise, therefore, to assume that the sea control required to project power from the sea in remote littoral regions will be 'won'. Nor should one be deluded by the acquisition of two amphibious landing ships. The amphibious capability represented by these vessels would not amount to more than an ability to perform tactical lodgement operations – power projection in the most benign meaning of the phrase.

Conclusion

A maritime strategy should exist to support the national security strategy. It has no value as an independent plan with its own objectives. It needs to focus on the methods of establishing and exploiting sea control in the support of national security policies and interests. The USN's new maritime strategy, as outlined in ... *From the Sea*, conforms to this ideal. Faced with a significant change in its security environment, the US adopted a regional perspective to its security interests and developed a suitable national security strategy. Subsequently, US naval planners developed a complimentary maritime strategy that ensured the employment of naval forces would support every element of the national security strategy. The result was a plan which redefined the requirements for securing and using sea control in the defence of national interests. While less effort would be required to secure sea control in the future, the ability to project power ashore in the littoral regions of the world would demand attention. Hence the apparent shift in direction from sea control to power projection and littoral warfare.

It makes little sense, however, to suggest that Australian naval forces are in a position to contemplate a similar shift in strategic direction. From

the outset, a maritime strategy focused on the ability to project power ashore would not support current strategic guidance, which is fundamentally concerned with the defence of Australia. Such a strategy calls for continued focus on the sea control function naval forces provide and the protection it affords against use of the sea to threaten sovereignty. Furthermore, a power projection role would seriously undermine the thrust of current regional security policy. This policy, based on engagement, calls for an approach which aims to diffuse threatening intentions and motivations among neighbours. The development of a power projection capability would certainly call into question Australia's own intentions in the region. Finally, Australian naval forces cannot assume that they have the ability to win the sea control necessary to support littoral warfare operations. National resources do not support the development of capabilities beyond those required for national defence, current force structure only supports an ability to secure limited sea control in the sea-air gap to the north, and current naval forces face increasing challenges in the contest for sea control from the growth in defence forces within the region.

NOTES

1 From Mahan's recognition of the role of seapower as a basis for national policy, maritime strategy has evolved into a multi-faceted concept that comprises the complete approach a nation takes towards the management of its maritime affairs. For the purpose of this essay, it is intended to confine the consideration of maritime strategy to the contribution made by naval forces in support of national security strategies and interests.

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3 Till G. *Maritime Strategy and the Twenty-First Century* in G. Till (ed) *Seapower – Theory and Practice*. Frank Cass, Essex, 1994. p 180.

4 Hattendorf, J.B. *What is Maritime Strategy* in D. Stevens (ed) *In Search of a Maritime Strategy*. Strategic and Defence Studies Centre, ANU, 1997. p 16.

5 Corbett, J.S. *Some Principles of Maritime Strategy* in J.B. Hattendorf, W.P. Hughes, Jr (eds) *Classics of Sea Power* series. Naval Institute Press, Annapolis, 1988. p 91.

6 Hattendorf, *op cit*, p 13.

7 Weeks, Dr. *Crafting a New Maritime Strategy*. USNI Proceedings, January 1992. pp 30 – 37.

8 Smith, E.A. *What "... From the Sea" Didn't Say*. Naval War College Review, Winter 1995, Vol. XLVIII, No. 1. p 9.

9 A detailed discussion of these issues is contained in Smith, E.A. *What "... From the Sea" Didn't Say*. Naval War College Review, Winter 1995, Vol. XLVIII, No. 1.

10 Smith, *op cit*, p 32.

11 O'Keefe, S.C., Kelso, F.B., Mundy, C.E. *... From the Sea: A New Direction for the Naval Service*. Marine Corps Gazette, November 1992. p 19.

12 *ibid*, p 20.

13 *ibid*, p 18.

14 *ibid*, p 20.

15 *Strategic Review* 1993. DPUBS, Defence Centre, Canberra, 1993. p 44.

16 Corbett, *op cit*, p 239.

17 *Australia's Regional Security*, Ministerial Statement by Senator the Hon Gareth Evans QC, Minister for Foreign Affairs and Trade, December 1989, in G. Fry (ed) *Australia's Regional Security*. Allen and Unwin, North Sydney, 1991. p 213.

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20 Hill, J.R. *Maritime Strategy for Medium Powers*. Croom Helm, Kent, 1986. p 219.

21 *Strategic Review* 1993, *op cit*, p 44.

22 BR 1806. *The Fundamentals of British Maritime Strategy*. Directorate of Naval Staff Duties, HMSO, London, 1995. p 68.

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An essay on South-East Asian Navies: Defending Each Other's Backyards

By Major D. A. Kerr

The armed forces of any state are an expression of that state's power and wealth, its aspirations and goals and thus its position in the hierarchy of states.

Commodore Jacob Borresen[1]

Regardless of the details of the law of the sea which emerge in the next few years, the paramount political fact will be that one man's distant water is another man's maritime backyard; and that all coastal states want a bigger say in their own backyards.

Ken Booth[2]

Introduction

The end of the Cold War has been greeted in the Western World with persistent demands that defence forces demonstrate a 'peace dividend', usually by reductions in force size and operating budgets. However, within South-East Asia there has been no such 'dividend'. Instead, the end of the Cold War has sparked an expansion of regional military forces and, in particular, has seen what one observer has called, a re-emergence of the importance of seapower.[3] If Western maritime theorists thought that Mahan was dead, South-East Asia nations are demonstrating that there is life in the old sea-dog yet. As Commodore Sam Bateman has written, it could well be said that Mahan is alive and well but living in Tokyo, Seoul, Taipei, Beijing, New Delhi, Bangkok and Jakarta![4]

The litany of factors that have fostered this re-emergence of seapower amongst South-East Asia nations has become almost a clich amongst contemporary maritime theorists.[5] The most oft-repeated are: the end of the Cold War, the drawdown of United States and Soviet South-East Asian forces, and developments in the law of the sea. Each of these factors has contributed to an environment in South-East Asia in which maritime issues could, and do, result in conflict; an obvious example being the overlapping territorial claims in the South China Sea.[6] However, despite recent qualitative and quantitative improvements, most South-East Asian navies remain small, with only a few approaching medium power status.[7] Such capabilities, no matter how circumscribed, will become increasingly more important as regional nations seek to expand their use of the sea for both economic and military purposes.

Although the maintenance of peace or the resolution of conflict within the region involves a myriad of political, economic and military aspects, this essay is limited to the specific contribution which regional navies can make; accepting that navies cannot operate in isolation. It should also be noted that while this essay refers to South-East Asia as a region[8], it is acknowledged that in political, social, economic and cultural terms the region is far from homogeneous. There is no common threat perception and, besides similar desires for national security and economic growth, no other easily identified common national interests. For the purposes of this essay though, the term South-East Asia region will suffice.

This essay discusses recent geopolitical factors and developments in the law of the sea that have affected the South-East Asian region. In the context of these influences, comment is provided on the constituents of a credible maritime strategy for small maritime powers. Current South-East Asian security architectures are examined and, finally, a maritime strategy for South-East Asian navies is proposed. The aim of this essay is to determine a maritime strategy through which South-East Asian navies can make a credible contribution to maintaining peace or resolving regional conflict.

A Region of Change

Regional Uncertainty

While an increasing reliance on the use of the sea for economic purposes had stimulated the re-emergence of seapower in South-East Asia before 1991, the collapse of the Soviet Union and the ending of the superpower-funded balance of power gave regional seapower an increased impetus. With the majority of its Pacific Fleet rusting at anchor in Vladivostok, and

its internal politics and economy in turmoil. Russia is no longer a significant player in the strategic affairs of the region and is unlikely to be one for the rest of this decade.

As a consequence, the United States has reduced its direct military presence in the region by withdrawing from Subic Bay and reducing force numbers in Japan and Korea. While the United States has publicly stated that it will remain strategically engaged in the region,[9] it will be looking for its allies to accept more of the security burden - the shift from *pax Americana* to *pax consortis* first espoused in the Guam Doctrine.[10] Not surprisingly, this is cause for concern amongst South-East Asian nations. Singapore, for example, only became independent in 1965, and has lived her entire independent existence under the shelter of the Cold War US security umbrella.[11] Like children suddenly left orphan, South-East Asian nations are confronting the reality of having to look after their own backyards.

Regional Response

The reduction of Cold War tensions has produced a growing multi-polarity in the region. Patterns of relations between states are arguably less defined and more subject to change than was the case just a few years ago. Without the certainty, real or imagined, of a long-term United States military commitment, South-East Asian nations are reviewing their force structure rationale.

In response to this increase in regional uncertainty, South-East Asia nations are moving from a preoccupation with internal security concerns to a desire to influence external issues.[12] This shift in defence posture comes at a time when many South-East Asia nations are experiencing significant economic growth, a prerequisite for developing more capable and sustainable defence forces.[13] Given that the majority of South-East Asia nations are coastal states, dependent on sea lines of communication (SLOC) for their economic prosperity,[14] recent force structure developments have acknowledged this maritime-ness[15] by building-up naval forces; often the neglected bastard son.

Developing a maritime strategy for these growing South-East Asian navies must take into account not only geopolitical changes in the region, but also the implications, and complications, of developments in the law of the sea (LOS).

The Law of the Sea

The LOS developed over the centuries around the notion of *mare liberum* (freedom of the seas). Such freedom enabled merchant ships and warships of the great trading nations to move about the worlds oceans without hindrance. With the advance of technology, the importance of the sea as a commerce route and military projection medium has been joined by the economic importance of the vast riches of its waters and its bed. Not surprisingly, in the period since 1945, coastal states have tended to extend their domain by appropriating maritime zones much larger than the traditional 3 nm; a trend towards *mare clausum* (closure of the seas).

United Nations Conferences

After two unsuccessful attempts in 1958 and 1960 to codify the LOS, the United Nations succeeded in 1982 at establishing an all encompassing convention, the Third United Nations Convention on the Law of the Sea (UNCLOS III). Pressure from Third World countries helped convene the conference and, with a majority in the General Assembly, the proceedings were dominated by their demands for greater control and access to the resources of the sea.

The key provisions of UNCLOS III, which came into effect on 16 November 1994, include the rights of states to claim a 12 nm territorial sea,[16] a 24 nm contiguous zone and a 200 nm exclusive economic zone (EEZ). The average coastal state has increased its maritime domain by about 1 600%.

In the EEZ the coastal state is accorded sovereign rights for exploring, exploiting, conserving and managing the natural resources of the seabed, subsoil and superjacent waters. About 32% of all ocean space has now been enclosed, containing the majority of ocean fish stocks and all known commercially exploitable hydrocarbon resources.[17] Fishery protection and regulation are perhaps the oldest, and still most important and highly visible, of the coastal state tasks in the EEZ. However, regulation of offshore extractive industries, traffic separation schemes, control of marine pollution, lifesaving and controlling piracy are all increasing concerns of regional navies.

Jurisdiction of National Waters

One notable impact of UNCLOS III on small maritime powers is that there has been a significant increase in the area over which they must be able to assert a level of maritime influence to protect national interests, particularly within their EEZ. To protect its territorial waters a country must be capable of a number of functions. Initially, a nation must inform other states of its claimed jurisdiction and its laws for use of the EEZ. A nation must acquire and constantly update information on activities in its territorial waters, have the means to warn offenders, and be capable of carrying out inspections of suspected offenders. Additionally, a nation must be capable of detaining the offending vessel and/or prosecuting the offending owner/captain. In the extreme case, it must also be prepared to defend its territorial waters.

Sources of Dispute

LOS developments have significantly increased the potential for regional disputes. For example, the extension by Malaysia and Indonesia of their territorial seas to 12 nm means that Singapore and her territorial waters are surrounded.[18] This gives Singapore no access to high seas except through the territorial waters of others. Without UNCLOS III provisions guaranteeing transit passage, this would be a critical state of affairs for Singapore whose 'annual trade value is some three times her GDP, with most of it going by sea'.[19]

LOS disputes may arise when an infringing state refuses to accept the police action imposed on its citizens or ships, or refuses to accept the boundaries of the enclosure. Since 1946, disputes involving zones of the sea have averaged five per year.[20] This number is unlikely to decrease as more attention is focussed on the sea as a source of food and energy and coastal states assert jurisdiction over larger areas than before; the problem of 'creeping jurisdiction'.[21]

Within South-East Asia, potential and actual disputes include questions over rights of fishing, rights of access, ownership of islands,[22] the validity of baselines and the methods of delimitation between opposite and adjacent states. Figure 1 shows an indicative selection of the ongoing maritime disputes affecting the South-East Asia region.

The South-East Asian Maritime Dilemma

The twin factors of regional uncertainty caused by geopolitical changes coupled with developments in the LOS have left South-East Asian nations in a dilemma. While the choice has been to develop a navy with as much firepower as can be afforded, only the larger of South-East Asian navies have forces appropriate to both territorial and EEZ jurisdiction. The smaller navies, constrained economically, are limited to territorial sea patrol at best. Over the past decade, in an effort to rectify such shortcomings, most regional navies have experienced significant growth, both horizontally and vertically.

Much of the growth has been in the patrol boat and corvette classes, lending weight to the argument that the expansion has been driven by the need for surveillance and protection of newly proclaimed ocean areas. However, the lack of investment in long range surveillance and patrol capabilities (surface and air) would support the counter-argument that growth has been driven by functions of cost and strike power. Whatever the reason, Geoffrey Till remarked in 1994 that, 'of the 1 700 or so naval vessels to be built over the next decade, the majority will be the smaller coastal patrol vessels and corvettes, nearly 70 per cent of which will be going to Asian or NATO navies'.[23]

Despite this growth, South-East Asian navies remain small, most with only limited capabilities. The quandary facing regional navies then is to develop an appropriate maritime strategy that is conducive to national security and regional stability, both of which underpin economic growth. The first step in developing a South-East Asian maritime strategy is to identify the constituents of such a strategy.

The Constituents of a Maritime Strategy

Maritime strategy is defined as 'the methods by which countries attempt to maintain or increase their sea power and how they try to use it to achieve desired objectives in war and peace'.[24] Alfred Thayer Mahan wrote that the 'stoppage of commerce compels peace. Wars are won by the economic strangulation of the enemy from the sea'.[25] Mahan termed this concept of maritime strategy 'sea command'. However, he tended to write in absolute terms, concentrating on maritime theory applicable only to major powers.

Rethinking Mahanian theory in a more modern setting, Geoffrey Till, like most modern theorists, uses Mahans concept of 'sea command' in a context more akin to sea control. Sea control is defined as 'the condition that exists when one has freedom of action

Nations Involved	Nature of Dispute
China - Vietnam - Taiwan - Philippines	Disputed claims over the Paracel Islands.
China - Vietnam - Taiwan - Philippines - Malaysia - Brunei.	Various overlapping claims to the Spratly Islands.
Cambodia - Vietnam.	Disputed ownership of Quan Phu Quoc Island and Wei Islands.
China - Vietnam.	Boundary dispute in the Gulf of Tonkin.
Malaysia - Brunei.	Dispute over EEZ boundaries.
Australia - Indonesia.	Dispute over continental shelf.

Figure 1. *Indicative LOS Disputes Affecting the South-East Asian Region*

to use an area of sea for one's own purposes for a period of time and, if necessary, deny its use to an enemy'.[26]

For Till, sea control is the means through which five purposive or preventive uses of the sea are achieved; projection of power ashore, protection of the offshore estate, trade protection, naval diplomacy and strategic deterrence.[27] Of these, power projection remains the domain of medium and large navies. Similarly, while Till suggests that deterrence comes merely from having a navy with 'an evident ability to perform conventional maritime tasks efficiently',[28] Rear Admiral Hill argues that ultimately, deterrence is only credible for maritime superpowers.[29] This leaves protection of the offshore estate, trade protection and naval diplomacy as credible uses of the sea for small navies.

The ability of small South-East Asian navies to make a credible contribution to maintaining peace or resolving regional conflict is therefore dependent on their ability to undertake these three uses of the sea. While geopolitical changes in the region have reduced the prospect of serious war at sea, emphasis has been placed on policing the LOS and protecting SLOC.[30] Not surprisingly, sea use in peace remains at the forefront of regional navies desires; perhaps achieving the elevated status of a maxim of seapower.

For South-East Asian navies, their individual ability to achieve sea use is extremely limited, particularly when considering potential external threats such as China, India or Japan who may seek to encroach on South-East Asian sovereignty in pursuit of resources or territory.[31] An ability to gain a degree of sea use is crucial because South-East Asian nations are inextricably linked in an international trading web and that trade, because of the volumes involved, will, for the foreseeable future, be conducted across SLOC, rendering it vulnerable to interdiction. Gorshkov reinforces the importance of SLOC when describing anti-trade and protection-of-trade operations as 'the most important constituent part of the efforts of a fleet aimed at undermining the military-economic potential of the enemy'.[32] South-East Asian nations are acutely aware of their maritime economic vulnerability.[33]

Therefore, when sea use is threatened in peace or war, regional nations must be able to assert their sovereignty by gaining sea control through the application of sea power. Historically, sea control has been considered the sole province of medium and large maritime powers. What then of small South-East Asian navies?

Sea control has two complementary aspects: freedom of usage (sea assertion) and denial to the enemy (sea denial).[34] The size of most South-East Asian navies means that achieving sea control through sea assertion is unlikely. However, for the same reasons as their larger cousins, South-East Asian navies will still need to achieve a degree of sea control. This can be attained through sea denial, which Roskill terms as the 'denial of sea control to ones adversaries'.[35] Sea denial may include such actions as defence of sea approaches, protection of offshore resources, shadowing and marking, and mining. An indication of the effectiveness of a small maritime power engaging in a sea denial strategy against a larger maritime power was provided by the Cod Wars of 1958 to 1976 where Iceland denied British trawlers access to fishing grounds.[36] The Cod Wars demonstrated that policing the offshore estate is a credible role for small navies and, coupled with the acceptance of 200 nm EEZs, have been described as 'some of the most significant maritime campaigns of the century'.[37]

While sea denial is particularly relevant to nations such as Malaysia, Indonesia and Singapore, who can apply sea denial to the archipelagic choke points, 'the penalties for getting it wrong may be quite severe'.[38] This was demonstrated by the inability of the Argentine Navy to deny British naval operations around the Falklands Islands.

Despite the demonstrated effectiveness of pursuing a sea denial strategy, such a strategy is not a long-term substitute for gaining sea use and should not be considered an end in itself for small South-East Asian navies. While sea denial may allow a small navy the ability to prevent a larger opponent from gaining sea control, it does not allow the smaller navy to use the sea itself. For nations that are economically dependent on the sea, such as those in South-East Asia, a sea denial strategy risks winning the battle but losing the war.

The challenge that faces South-East Asian nations is that UNCLOS III has provided them with increased economic potential at the cost of being able to provide sufficient military force for ensuring their own security. This requires a maritime strategy that provides regional nations with the ability to gain the requisite level of sea control in an environment in which superpower protection is not guaranteed. In a region bordered by large, and still growing, potential maritime threats, small South-East Asian navies do not have sufficient sea power individually to make a credible contribution to maintaining peace or resolving regional conflict. Therefore, without incurring crippling defence expenditure, a multilateral approach to maritime security offers the most cost-effective strategy for small South-East Asian navies.

Before examining how a South-East Asian maritime strategy should be structured, it is necessary to discuss the regional bilateral and multilateral architectures within which such a maritime strategy would operate.

South-East Asian Security Architectures

Within South-East Asia, progress towards a multilateral security dialogue has gathered tempo recently; largely under the leadership of ASEAN. During the Cold War, South-East Asian nations did not enter into the type of comprehensive or cohesive bilateral alliances so evident in Europe. The major reasons for this were the lack of a common threat coupled with the 'relative immaturity of the regions countries as nation-states, their emphasis being upon internal security concerns'.[39] Further, the certainty of the security umbrella provided by the United States precluded any regional imperative to develop extensive bilateral or multilateral alliances. With the end of the Cold War, there is a unique window of opportunity to try to do exactly that. Certainly the initial steps in institutionalising regional security dialogue have been taken.[40]

The formation in 1993 of the Council for Security Cooperation in Asia-Pacific (CSCAP) offered the first region-wide forum for quasi-official dialogue on security problems.[41] Similarly, the newly formed ASEAN Regional Forum (ARF), which met for the first time in mid-1994, is likely to become an important forum for multilateral security dialogue.[42] However, it will take some time for both forums to develop their charters and determine the exact roles they will play in regional security.[43] In particular, the development of cohesive military co-ordination on a common multilateral basis, let alone combined command structures as seen in NATO, is a long-term goal. As one observer has noted, the Asian approach to consensus 'will make progress in a pan-South-East Asian security approach a longer journey than hoped'.[44]

In this regard, South-East Asian nations need to learn to walk before they try and run. Bilateral relationships give nations confidence of military support in times of crisis; multilateral arrangements do not always carry this certainty. Strong bilateral alliances and relationships, including with the US, should be the first priority in approaching this emerging multilateralism. Such bilateral alliances are needed to resolve current problems such as the South China Sea. Additionally, they will be a necessary complement to multilateralism no matter how auspiciously it develops. So in addition to engaging old and potential adversaries, regional nations need to work hard at maintaining old friendships and patterns of co-operation. It is with this caveat that a South-East Asian maritime strategy will be proposed.

A South-East Asian Maritime Strategy

South-East Asian naval forces have a significant role to play in this emerging multilateral approach to security. However, given the suspicions and historical antagonisms that exist in the South-East Asia region, the development of a regional maritime strategy should be undertaken as a sequence of complementary stages.

The first stage should be the elucidation of national maritime interests. Most regional countries have not expounded their national interests, particularly regarding maritime issues, beyond notions of the maintenance of national sovereignty and a desire to police offshore resources. Few regional countries have produced any form of defence 'White Paper'.[45] However, a clear expression of national interests would ease regional uncertainties and aid in creating an atmosphere of regional transparency conducive to the formulation of multilateral security agreements. This stage must also include resolution of existing intra-regional territorial disputes. While easier said than done, South-East Asia must get its own maritime shop in order before an effective multilateral maritime strategy can be implemented. This should not be considered a pipe-dream though, as one observer has noted, 'the atmospherics in the region are distinctly conducive to initiatives for region-wide engagement now'.[46]

The second stage should be the identification of mutual maritime interests. This stage will be complicated by the 'absence of a common and readily identifiable threat'.[47] Nevertheless, regional navies should recognise that national sovereignty and economic development are underpinned by regional security and growth. Similarly, regional stability is fostered by encouraging regional cohesion and resilience to outside influence. 'With national resilience in each country, there will be no weak links in the region to exploit, and by working together, there will be regional resilience and the region will be better prepared to face the unknown'.[48]

The third stage should be an assessment of national maritime capabilities to identify regional strengths and weaknesses. This may prove to be the most difficult step. Regional suspicions are likely to prevent honest assessments of maritime shortcomings and South-East Asian strategic culture is characterised by a commitment to non-interference in the internal affairs of other regional nations.[49] However, bilateral and multilateral agreements should accentuate national strengths and compensate regional weaknesses. By keeping an eye on each others 'maritime backyard', South-East Asian navies can make a credible contribution to regional cohesion and resilience.

The fourth stage should be the commencement of combined naval training and exercises. Such combined activities currently occur in the region, usually under the auspices of United States or, more recently, Australian naval direction. Regional nations should foster their own combined naval training programmes, including an extensive personnel exchange programme to promote trust and interoperability. The aim of combined naval exercises should include gaining regional sea control, particularly for protecting trade and the offshore estate.

The final stage should be the development of combined maritime defence agreements. Keeping in mind regional sensitivities, such defence agreements should initially be along bilateral rather than multilateral lines.[50] Such agreements should be aimed at fostering a cooperative regional security umbrella that will act as a deterrent against hostile actions by external nations. In this way, the small South-East Asian navies can combine to thwart hostile action by much larger forces. Without a common threat perception this stage is likely to take considerable time to accomplish. However, even lightly structured, pluralistic alliances can be effective in Asia; ASEAN is an example.[51]

The overall aim of such a maritime strategy should be, as one observer has noted, to coordinate each nations maritime power to 'avoid contention and confrontation, and seek cooperation in order to maximise the aggregate ability of a country to benefit from making use of the sea to fulfil its national economic, security and other goals'.[52]

Conclusion

The Cold War provided a certain framework to South-East Asian security issues that is no longer present. In particular, questions over the long-term commitment of the United States to regional engagement have created a milieu of uncertainty within South-East Asia. This uncertainty has accentuated the impact of LOS developments on the coastal states of South-East Asia. While the sea is a potential source of significant regional resources, on-going LOS disputes have the potential to result in conflict as nations seek to resolve overlapping national interests.

South-East Asian nations are dependent on the sea for their economic growth. Such dependence makes them vulnerable to a range of maritime threats, particularly the potential threats that could be posed by growing powers such as India, China or Japan. Without a guaranteed United States security umbrella, South-East Asian navies will be increasingly called upon to make a credible contribution to defeating maritime threats. To this end, there has been a re-emergence of seapower in South-East Asia. Regional navies have developed both horizontally and vertically over the past two decades. However, despite qualitative and quantitative improvements, regional navies remain small with only limited capabilities.

To make a credible contribution to maintaining peace or resolving conflict within the region, South-East Asian navies must be able to exercise a degree of sea control through either use of the sea or sea denial. Given their limited capabilities, individual navies could only realistically pursue a sea denial strategy. However, such a strategy does not provide a viable, long-term option for nations that are economically dependent on sea trade. Therefore, without incurring crippling defence expenditure, the most cost-effective maritime strategy for the region would be the maintenance of existing bilateral naval alliances coupled with the development of new forms of multilateral co-operation. Such a strategy would promote the common national interests of regional stability and economic growth, and provide a visible deterrence to larger, external powers.

The formation of the ARF and CSCAP forums are clear indications of the momentum which the move towards a multilateral security dialogue has gathered in the region. However, this is not to say that achieving consensus amongst South-East Asian nations will be an easy or short-term task. Rather, the road to multilateral military alliances will be a long and difficult one, particularly given the lack of a common threat perception. However, the South-East Asian maritime strategy proposed in this essay offers a good starting point for this journey. As Captain Lee Cordner has written, the opportunity to achieve regional resilience is at hand. Political and military leaders must recognise the imperative and accept the challenge.[53]

NOTES

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3 Cheung Tai Ming. Command of the Seas. *Far Eastern Economic Review.* 27 July 1989. p 16.

4 Bateman S. Old Wine in New Bottles? Maritime Strategy in the Asia Pacific. *Journal of the Australian Naval Institute.* May/July 1995. p 11.

5 For example, see Bateman CDRE S. *Prospects for Dialogue and Cooperation Between Asia/Pacific Navies.* Working Paper No 127. Peace Research Centre, Australian National University, Canberra, February 1993.

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9 Holloway N. & Moffett S. Cracks in the Armour. *Far Eastern Economic Review.* May 2, 1996. p 14.

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14 Approximately 90% of regional trade travels by sea. Cordner L.G. Regional Resilience: The Imperative for Maritime Security Cooperation in Southeast Asia. *Naval War College Review*. Vol XLVII, No 2, Spring 1994. p 42.
15 Hills term for a nations dependence on the sea in various aspects of their national life. Hill J.R. *Maritime Strategy for Medium Powers*. Croom Helm, London, 1986. p 40.
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17 Booth, *op cit*, p 38.
18 Hean, *op cit*, p 13.
19 *ibid*, p 14.
20 Booth, *op cit*, p 50.
21 The term creeping jurisdiction refers to the extension of national or international rules and regulations, and rights and duties over the sea, in straits and coastal zones, on and under the seabed, and in the vast stretches of the high seas. *ibid*, p 38.
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25 Paret P.(ed) *Makers of Modern Strategy from Machiavelli to the Nuclear Age*. Clarendon Press, Oxford, 1986. p 455.
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28 *ibid*, p 216.
29 Hill, *op cit*, pp 79-80.
30 Till, *op cit*, pp 194-6.
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44 Zakaria H.A. The Quest for Greater Communality in Southeast Asia: A Political and Security Perspective. *Asian Defence Journal*. No 3, March 1994. p 12.
45 Thailand has recently released its first publicly available Defence White Paper and Malaysia is considering doing likewise. Bateman S. & McCaffrie J. *MCSBMs in Asia Pacific: Challenges, Prospects and Policy Implications*. Issues in Maritime Studies, DPUBS, 15813/95. p 90.
46 Jawhar M. *The Making of a New Southeast Asia*. Paper presented at the Inaugural Asia-Pacific Defence Conference. Singapore, February 1992. p 11.
47 Mak J.N. *ASEAN Defence Reorientation 1975-1992: The Dynamics of Modernisation and Structural Change*. Strategic and Defence Studies Centre, ANU, Canberra, 1993. p 153.
48 Hean, *op cit*, p 13.
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Corfu Incident
HM Ships *Saumarez* and *Volage* in the Corfu Straits 22 October 1946

Graham Wilson

In a shady grove on the Greek island of Corfu is a small, well tended cemetery. There are twelve headstones and a memorial stone in the cemetery. The inscriptions on the stones are in English and each bears the anchor of the Royal Navy. This is the British Cemetery and the headstones, dating from 1946, commemorate 44 sailors of the Royal Navy who lost their lives 50 years ago as a result of attempts by Albania, one of the more bizarre regimes of recent times, to establish its pre-eminence in the region. The 12 headstones mark the graves of 12 sailors, while the memorial stone commemorates 32 others whose bodies were never recovered.

Corfu, a Greek owned island, lies just off the Albanian coast, separated from its neighbour by a narrow passage of water known as the Corfu Straits. Quiet today, fifty years ago, the channel was a scene of devastation and tragedy as two destroyers of the Royal Navy unknowingly stumbled into a mine field sown by Communist Albania in contravention of international law and custom.

Albania is an ancient country, once a bastion of the Roman Empire, then for centuries a vassal state of the Ottomon Empire. Emerging as an independent state from the First Balkan War, the country was a battle ground during the First World War, being occupied at various times by Austro-Hungarians, Serbs, French and Italians. The Italians, who had long had territorial claims on Albania, remained until 1920 when they were forced to depart by a combination of Albanian protest and foreign pressure. Ahmed Beg Zogu seized power in 1925 and was installed as the first president. In 1928, he assumed the title of King Zog I and ruled the country as a relatively benign despot for eleven years. Zog married a Hungarian countess in 1938 and his best man was the Italian Count Ciano who, on his return to Italy, advised his father-in-law, Mussolini, that Italy should annex Albania. This was duly done and Zog was expelled from his country which then became a province of the Italian Empire.

When Italy surrendered to the Allies in 1943, the Germans moved in to occupy Albania. Various resistance groups struggled against the occupiers and against each other. Eventually, the Communist National Liberation Front under the control of Enver Hoxha gained supremacy over the other groups and when the Germans were driven out in 1944, Hoxha was installed as head of government. Under Communist rule, Albania became a closed police state, introverted, xenophobic, nationalistic and with a political system built around an intense personality cult centred on Hoxha.

In 1946, no more than a year after the end of the war and little over two years from the establishment of the new state, Albania became involved in a dispute with the United Kingdom over free passage of the seas. The dispute centred around the Corfu Straits, the narrow stretch of water which separated the Greek island of Corfu from the Albanian mainland. This passage had traditionally provided free passage for all peaceful shipping but Albania now claimed it as territorial waters and demanded the right of controlling shipping in the Straits.

Compounding the problem was the fact that the Corfu Straits had been heavily mined during the recent war. A narrow channel had been swept but this passed within 1.5km of the Albanian port of Saranda. Ships sailing the Corfu Straits therefore had to enter waters which were indisputably Albanian, making the question of free passage extremely blurred. In the face of Albanian posturing and protestations, the British government decided to clarify the matter and gave the job to the Royal Navy, hoping to establish by precedent the rule of maritime law.

On 15 May, 1946, the cruisers *Orion* and *Superb* entered the Straits from the south and proceeded up the mine free channel. When they passed close to Saranda, Albanian shore batteries fired on the two ships, which were, luckily, undamaged and which did not return fire. A British note of protest to the Albanian government, demanding an apology, was answered with the statement that the ships were fired on as they were unidentified and acting aggressively in Albanian waters. Needless to say, no apology accompanied the Albanian reply. Britain now decided to send a special naval force through the straits, apparently with the intention of provoking an attack which could then be used to condemn Albania before the world.

In late October, the special force, consisting of the cruisers *Mauritius* and *Leander* and the destroyers Saumarex and Volage gathered at Corfu harbour. The force was under the command of Rear Admiral H.R.G. Kinahan, flying his flag aboard *Mauritius*.

The force set sail from Corfu at 1330 hours on 22 October, sailing in pairs – *Mauritius* and *Saumarez* were in the lead with *Leander* and *Volage* 3km astern. Providing support was the aircraft carrier *Ocean* which was stationed, with her escort destroyer *Raider*, some 80km to the north in case of an attack. Kinahan's orders were to react with force to any Albanian aggression.

Unlike the two cruisers the previous May, Kinahan's ships cruised at action stations with all gun crews closed up. If the Albanian shore batteries fired on his ships, Kinahan intended to immediately retaliate. At first, all went quietly, with no sign of hostile Albanian intention. A survivor of the incident recalls, however, that the shore was lined with Albanian troops watching the progress of the ships. At 1447 hours, somewhat anticlimactically, *Mauritius* cleared the potential flash point near Saranda and turned for the open sea. Six minutes later, a huge explosion rocked *Saumarez* and a bright yellow flash was sent high into the air on both sides of the destroyer's hull. Captain Selby on *Saumarez* signalled *Mauritius* that he had been mined. The squadron navigation officer aboard *Mauritius* took a sight on the destroyer and fixed her position as being almost in the exact centre of the supposedly mine-free channel!

Damage to the destroyer was devastating and she was for all intents crippled. The explosion ripped through Number One boiler room, fractured five of the fuel tanks and opened the forward part of the ship to the sea. Power gone, she wallowed bow-down in the water and as leaking oil ignited, fire swept through her shattered compartments. With 36 of her crew dead or dying, she began drifting helplessly towards uncleared minefields, shallow waters and a hostile shore.

Kinahan reacted immediately. Lacking sea-room and hemmed in to mine infested waters, he ordered *Leander* around the island of Corfu so as to be available in the south, called for assistance from *Ocean* and *Raider*, and ordered Commander Paul of *Volage* to take *Saumarez* in tow. Paul approached the crippled destroyer cautiously and attempted to pass a line across to her stern. When his first attempt failed, he manoeuvred in for a second attempt. On this attempt, the two ships collided and *Volage* had a 2.5m gash torn in her bow. Despite this damage, this time the attempt to pass the tow was successful and *Volage* began to tow her stricken sister up through the swept channel towards the open sea.

Although the gash in *Volage's* bow was above the waterline, Paul decided to put a working party in the bow to plug the hole. Eight men were still working in the bow when *Volage* herself detonated a mine at 1615 hours. The mine detonated near the bow, tearing a 12m section off the bow and killing all eight members of the damage control party instantly. *Volage* stopped dead in the water, the tow slackened and both ships now faced disaster.

Kinahan faced a desperate choice. Both of his destroyers mined and apparently disabled, he had to decide whether it was worth the risk to send one of his cruisers into the "mine-free channel" to resume the recovery or to cut his losses and order his destroyer captains to abandon ship. Fortunately, he was saved from making this agonising decision by a report from Paul that his ship still had power and steering and that, incredible as it sounded, he was prepared to resume the tow.

With her bow gone, *Volage* was unable to continue towing bow first. In an amazing display of both seamanship and daring, Paul caste off the tow and manoeuvred his ship around so that her shattered forward section was facing *Saumarez's* stern. In a tricky piece of seamanship, the tow line was repassed and *Volage* resumed the tow, this time stern first. All this time, the whole proceedings had been watched by the Albanians on shore. No offer of assistance was made by them.

The tow re-commenced at about 1700 hours and about an hour later, the two ships had cleared Saranda and were back in international waters. Kinahan debated with Paul whether or not to have *Volage* caste off the tow and have it taken up by either *Leander* or *Raider*. After some agonising discussion, it was decided to "leave well enough alone" and *Volage* continued with the tow, escorted by *Mauritius* and *Raider*. It was to take over 10 hours for the two destroyers to reach the safety of Corfu Harbour. In that time several of the injured aboard *Saumarez* had died, bringing the total death toll for the ship to 36. Added to these were the eight men aboard *Volage*, bringing the final toll to 44. In addition, over 40 men had been injured seriously enough to require hospitalisation.

As soon as the two ships arrived in harbour, the grim task of surveying the damage and recovering bodies began. Immediate assessments were that *Volage* could probably be repaired but that the damage to *Saumarez* was so extensive it was probable that she would never sail again. This assessment proved totally accurate. *Volage* was eventually placed back in service after an extensive period in dry dock during which she was virtually rebuilt. Sadly, *Saumarez*, a ship barely three years old, with a distinguished war record, was beyond repair. Towed back to Britain, she was reduced to scrap in 1950.

The recovery of bodies was a grim and saddening task. It was discovered that the fires that raged through *Saumarez's* compartments had been so intense that many men had been completely incinerated. Only ten bodies were recovered. Of the eight men who had been working in *Volage's* bow when she had been mined, only two were recovered, the other six having been obliterated by the explosion. Thus, only 12

HMS Jamaica, *a sistership of HMS* Mauritius

HMS Scourge, *sistership of HMS* Samaurez. *HMS* Volage *was very similar.*

bodies were buried in a moving ceremony with full naval honours a short time later. The other 32 men are now commemorated on the memorial stone.

British diplomatic reaction to the incident was surprisingly muted, largely because it was very difficult to prove that Albania was guilty. While no one else stood to gain by deliberately laying mines in the swept channel, the Albanian Navy was virtually non-existent at that time and certainly held no mine laying capability. On the other hand, Albania was at the time extremely close to Yugoslavia which was actively supporting the Greek communists in the Greek Civil War. Significantly, the Yugoslav Navy possessed a mine laying capacity in the form of the minelayer Orao. Whether or not Yugoslavia assisted Albania is very much a moot point. Irregardless, in the absence of any other culprit, the finger remained pointed very firmly at Albania. The Albanian case was not helped when Albania lodged protests when British minesweepers swept the "mine-free" channel in November. The ships recovered 22 recently laid ex-German GY type mines and detonated a number more. This, however, was not enough to either prove Albanian guilt or move world opinion. The latter was even more underlined when the Soviet Union, during a UN Security Council meeting in May, 1947, threatened to escalate the matter into an East-West confrontation if Britain did not drop its claims.

While the British protests, in the face of the realities of Cold War politics, tapered off, however, they did not die completely and Britain managed to take the matter to the International Court of Justice in The Hague. In a decision handed down on 9 April 1949, the Court found in Britain's favour and ordered Albania to pay compensation to the tune of £843,947. It should be noted that while the ICJ found in Britain's favour, it unanimously rejected portions of Britain's case. This rejection, and the reasons for it, which are,

unfortunately beyond the scope of this article, had important ramifications for interpretation of the law of the sea in regard to free passage of warships in international waters.

The International Court's decision was for a long time very much a hollow victory for Britain. Albania refused to accept the Court's decision and refused any sort of acknowledgement or apology. In retaliation, Britain severed relations with Albania and froze transfer of £10,000,000 worth of Albanian gold, seized by the Germans and recovered by the Allies at the end of the war. The situation persisted until 1990 when Albania, in desperate straits, opened negotiations with Britain for the return of the gold. Negotiations were interrupted by the turmoil of the early 1990s which eventually led to the fall of Communism in Albania and its tentative entry into the outside world. Finally, in May, 1992, Britain and Albania signed an agreement whereby the Albanian gold was to be returned in exchange for an Albanian compensation payment of £2,000,000 to Britain.

The Corfu Incident has become a case study in law of the sea, especially in regard to the right of free passage. The dead, meanwhile, sleep on. On 22 October, 1996, ceremonies were held at sea in the Corfu Straits and ashore on Corfu to commemorate the Corfu Incident and to remember the sacrifice of the sailors who had died.

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The Port River Torpedo Station

Commander R. Pennock, RAN (Rtd)

The onset of the Crimean War in 1853 affected all the Australian colonies with what has since been described as 'the Russian Scare'. In South Australia a number of committees and commissions were set up to report on defence measures and to make recommendations. Subsequent to the commissions of 1854, 1858, 1862, 1864 and 1865 it was not until 1866 that, in addition to coastal forts, A.H. Freeling and J.H. Scratchley recommended that torpedoes be used to defend the Port Creek[1]. A further committee was set up to consider the the May 1886 report of Commodore Sir W.F. Wiseman RN of HMS *Curacoa*[2] who also supported the use of torpedoes. Following a long period where the Wiseman Report was studied this aspect of defence was eventually supported[3]. Although some equipment, including a number of Whitehead/Fiume torpedoes, was purchased in the early 1880's it was not until later that a Torpedo Station was established on thirteen acres of swampland on the eastern shore of the Port River on the southern side of the entrance to the North Arm. It was a strategic site, being chosen as the nearest point to the mouth of the Port River on the Adelaide side. The earliest survey of the area appears to have been carried out in about 1840 when it was envisaged that the township of New Haven or Northarmton would be established in the immediate vicinity . Formal acknowledgement of the Torpedo Station came in about 1890 when the Naval Commandant, Captain J.C.P.Walcot, included details of it in his annual report for that year, and the work to be done there.

> Submarine mines were first employed in the late 1700's and were originally called torpedoes. However, they were little more than barrels filled with gunpowder with enough air for buoyancy to allow them to float. Moored mines, fired on contact or by chemical fuse were used by the Russians during the Crimean War[4]. In those days there were two types of mines, both of which were laid in defensive fields in relatively shallow water and connected to the shore by electric cables. They were[5]:
>
> Observation Mines – considered to be selective and were fired by an observer safely ensconced ashore. The method of firing was basic, but was later refined by an American (Colonel Colt of the revolver fame). To overcome the possibility of the shore observer setting off the mines at the wrong time, an electric circuit was added to the mine so that when the mine was touched by any vessel a signal was sent to the shore observer; and
>
> Electro-Contact mines – laid in groups in the harbour approaches and their detonation relied on a vessel actually striking the mine. An additional means of firing was provided through electric cable to the shore observers position.

The idea of using submarine mines had been introduced to the Australian colonies as a result of the *Jervois-Scratchley Report* and their use in South Australia was reinforced by Sir William Jervois after he became Governor of the State[6]. In the colonies of Tasmania, Victoria and New South Wales the 'Torpedo Corps and Submarine Miners were soldiers under the control of the Militia's Engineering Corps. Indeed the whole submarine mining aspect was traditionally controlled and operated by the Army. There being no Army engineers in the State at the time, this task was given to the naval force[7].

The (locomotive) torpedo as we know it today, was developed in stages. First was the Spar or McEvoy torpedo consisting of a gunpowder or similar explosive charge on the end of a 40 to 50 foot long pole attached to the bow of a small boat. The boat carrying the unit would sneak up to its target and place the charge against the hull and then explode it. "The Times" newspaper recorded in March 1877 the result of a French Admiralty test firing of a spar torpedo by a Thornycroft torpedo boat on the obselete vessel *Bayonnaise* in the following terms[8]:

> *"The Thornycroft put on a last spurt and struck the Bayonnaise with its whole force on the starboard bow. The sea was terribly agitated, a deafening report was heard and the Bayonnaise, with a rent as big as a house, sank with wonderful rapidity. As for the Thornycroft, rebounding by the shock about 15 metres off, even before the explosion occurred, it went round and round for a few moments and quietly resumed the direction of the squadron."*

At about the same time the British 'Harvey' torpedo was being considered. This consisted of an explosive device towed on a long cable behind a ship which would turn away from the target at a suitable range. The towed device would then (hopefully) become entangled on the bows of the target vessel[9]. The advent of the self-propelled or locomotive torpedo (Whitehead/Fiume and Brennan types changed all this. The Whitehead/Fiume was self propelled with ranges of up to 600 yards[10] and could be pre-set to run at a chosen depth. On the other hand, the Brennan locomotive torpedo was the brainchild of an Australian, but it was too cumbersome to be of any

practical use, especially if it was to be carried in any waterborn craft. The following is a description of its operation:

> *"The Brennan torpedo is driven by an engine on shore, which drives two large drums at a high velocity, and winds in two fine but strong wires, the other ends of the wires are wound two small reels withinin the torpedo, and the action of winding up the wires on the engine causes the wires within the torpedo to unwind at a very high velocity. The torpedo reels are connected to two propellor shafts and work in opposite directions. The result is that the harder the wires are hauled in the quicker the propellors revolve and the faster the torpedo travels. By means of a steering apparatus it can be made to twist and turn in any direction within 40 degrees of each side of right ahead, this is done by causing one wire to travel at greater speed than the other. It can be made to travel at a fixed and regular depth in the water. The path of the torpedo is made known to the operator by a flag in the day and a light at night. The torpedo contains 260lb of gun-cotton and travels at the rate of 27 knots per hour, and its maximum range is about 1 1/2 miles. It is of no use against torpedo boats on account of their high speed."*

The original torpedoes held by the SANF were the Whitehead/Fiume 14" Mk IV, powered by a Brotherhood air engine, capable of a speed of 23 knots over a distance of 600 yards and according the South Australian Agent General in London were of exactly the same pattern as those being supplied to the Royal Navy, of 14" diameter and 14' 6" in length . Those weapons acquired later from Tasmania were of a similar mark.

When questioned by a select Committee on Defence on 23 November 1887 the Naval Commandant, Captain J.C.P. Walcot stressed that whilst there were ten Whitehead/Fiume torpedoes at the (torpedo) station they had not been unpacked because there was no means of firing them, nor any sort of vessel from which to fire them. He also stated that there were only two men in the SA Naval Force who knew anything about them. When questioned by the same committee about a 'naval sham fight' (sic) held in the Port River on 9th November, he admitted that it had not been a great success and that one steamer underway in the river had passed over the mines and fouled the cable[11].

6" BL Armstrong Gun recovered from the Torpedo Station site in the early '60s.

In his annual report for 1890[12], some three years later, Captain Walcot commented on the establishment of a Naval Depot and Torpedo Station in the North Arm of the Port River. Specifically he commented upon the work in progress and the requirement to build an additional magazine, torpedo room, carpenters and blacksmiths workshops etc. He also reported that twenty submarine mines were being constructed locally and that the requisite mining cables had been ordered from England. Work was also in progress on sheet piling and reclamation of the embankment around the area.

In his 1892 report Captain Walcot stressed the continuing work in progress at the North Arm site, again drawing attention to the Whitehead torpedoes that had now been in store for six years. On the subject of a suitable vessel for use as a torpedo launch he wrote that "Provision was made in a loan for a torpedo launch, and of which loan, I believe, a sum available for the purpose still remains under the heading Military Road Defences"[13]. Additional comments were made about what was required at the Torpedo Station, including a wharf. Captain Walcot left for England on twelve months leave that same year and Senior Lieutenant William Creswell denuded *Protector* of her crew and placed all available manpower under Lieutenant Lundh to complete the North Arm depot. Finally completed it boasted accommodation, workshops, a shed, slipway and twelve torpedoes, but no torpedo boat.

The torpedo question surfaced again in 1895 when questions were asked in parliament as to "whether the government had ten Whitehead torpedoes, costing 6,000 pounds, for several years and that owing to the fact that there was no torpedo boat these items were virtually useless"[14]. Many years later in a newspaper article in 1924 Vice Admiral Creswell, by then retired, described the Torpedo Station as "that never ending sore" and his "bete noir"[15]. In his reports for 1893-4 and 1894-5, Creswell echoed the earlier pleas of his predecessor and made note of the lack of a torpedo boat or launch to enable the ten torpedoes to tested and run. Once again the plea fell on deaf ears.

In a report by the Admiralty Naval Intelligence Division in 1896[16] it was stated that the mining plan for Port Adelaide had been dropped "for the present". However, by that date an amount of mines and associated equipment had been acquired and was held in store at the Torpedo Station. These items were one 500lb buoyant mine, twenty 250lb buoyant mines and

nine electro-contact mines. The associated equipment included 4054 fathoms of single core cable, 1013 fathoms of four core cable, 1013 fathoms of seven core cable and 1 Siemens electric light apparatus. A further report in 1901[17] was more forthright and after an inspection of the Port Adelaide mining assets it was stated:

a. *"The submarine mining and stores are in charge of the local naval authorities. They consist of a few obselete mine cases of local manufacture";*

b. *"It cannot be considered that there is at present any SM Defences of Port Adelaide."*

c. *"Some cable (see Table XXIV) was serviceable when last tested (in 1896), but it is a question of whether it would give satisfactory results if it were moved"; and*

d. *"Submarine Mining and Building &c – South Australia – There is no proper SM Depot. Any stores on charge are kept in the building with naval and other equipment".*

There was an signifant increase in naval assets at the Torpedo Station when the torpedo boat TB 1 (or TB 191) and associated equipment was transferred from Hobart to Adelaide, arriving under tow by HMCS *Protector* on 3 May 1905. According to local contemporary sketches the Torpedo Boat and *Protector* exercised together at sea during the years between 1905 and 1911, but this could be artistic licence. Little is known of her fate but it is believed that she was sold out of service in about 1911 and broken up in Port Adelaide. Observing Creswell's comments in his report to the South Australian Parliament in 1895, there can be little doubt as to who was the driving force to have this vessel relocated.

The whole question of the Torpedo Station was being reconsidered in 1911, most probably in the light of the recommendations of Admiral Sir Reginald Henderson which drew attention to the fact that submarine mining had by then been abandoned in the United Kingdom[18]. However, a paper by the Australian Department of Defence in 1913[19] drew attention to the retention of Submarine Mine Defences in Port Jackson, Newcastle and the South Channel into Port Phillip Bay, and the need to return them to a serviceable condition. Drawing on an earlier report of a Colonel Parnell in February 1912, it was concluded that the advent of submarines would mean the abandonment of submarine mining in Port Phillip Bay. In October 1912 the Minister of Defence approved a recommendation that the submarine mine defences of Port Jackson could be made efficient by the transfer of stores and other equipment from Melbourne. In May 1913 the entire matter of submarine mining and mines was put into abeyance by the Council of Defence. The date of the eventual demise of this form of warfare in Australian waters is not known.

But to return to the Port River Torpedo Station. A description of the entire area is contained in the District Naval Officer SA letter of 9 August 1911[20]. Salient points, not in any particular order, which give a good description of the area are:

"The station is fitted with a telephone"

"All traffic to and from the station must be done by boat. The cost of maintenance is not great. A Caretaker, together with a stoker, the latter to look after the machinery is essential. Owing to the Caretaker having to go to the Port at least once per week for supplies, and as the place cannot be left without someone, he is relieved by (at present time) a Chief Stoker (G.Stuart)."

"The Torpedo Station is built on reclaimed ground, about four miles down the river from Port Adelaide, and consists of a jetty running into the Port river, with a tramway to the main building";

"A small house for the storage of Submarine mining cable";

"An oil store for the storage of benzine for use of motor boats";

"Building constructed of galvanised iron, divided up into a Gunner's Storeroom, an Air Compressing room (containing a vertical boiler for driving two Brotherhood's Air Compressors)";

"Torpedo room, Engineers workshop fitted with motor engine for driving machine tools";

"Main building consists of large shed – constructed of galvanised iron and wood – with a loft, lecture room and abutting the end, the private quarters of the Caretaker consisting of three rooms";

"Magazines – Building constructed of sand brick and divided into (small arms) ammunition. The gun cotton store, built of stone contains the warheads MkIV and MkVIII";

"Slipway and Shed – detatched from the main building, in which is housed the 62ft 2nd Class Torpedo Boat (which is in good condition). A steam boiler is erected here (old and out of action) for hauling up the Torpedo Boat, also a hand winch (multiple power) in good order";

"Filling shed built of wood and iron, detatched from all buildings and accessible only by boat, containing detonator & etc"; and

"Water Supply – Fresh water from the roofs of the buildings into tanks and pumped up by steam pump to a large tank erected on a high platform. Mains are laid and fire appliances fitted where required".

The letter continues with a list of stores held, condemned or otherwise useless. Apart from the usual

'seamanlike' items it is interesting to note that there were almost 48,000 rounds of small arms ammunition, 500 8" projectiles, many rifles, pistols, bayonets and one Nordenfeldt machine gun. Obviously the Torpedo Station was also being used as an armament store/depot for *Protector* and the SANF.

Mr Harry Perry had been caretaker at the Torpedo Station since 1895. Except for a period when embarked in *Protector* for the China deployment, he remained in that post until the place was closed sometime around the time of the First World War. He resided there with his family under poor conditions – three rooms built onto the end of the large shed[21] and on top of which he had to provide his own boat as transportation across the river or to Port Adelaide for himself and his family. Prior to a pay and List reorganisation in 1911 his annual salary had been just over 171 pounds per year, less 10 percent as rent. After being transferred to the Auxiliary and Instructional (A&I) List his salary was reduced to 150 pounds per annum and he was still expected to pay 10 percent of his salary as rental, leaving him with an annual salary of 135 pounds. Naturally he complained and this complaint was supported by the then District Naval Officer and forwarded to Navy Office[22]. The Board saw sense in the complaint and as a special case he was allowed to live there rent free[23].

There was an envisaged continuing use for the Torpedo Station, for when answering a query by the 2nd Naval Member as to whether Port Adelaide required both the Depot at Largs Bay and the Torpedo Station in 1911[24] Rear Admiral Creswell replied with an emphatic 'yes'[25]. The 2nd Naval Member personally inspected the Largs Bay Depot and pointed out that it was limited for space and recommended that the Torpedo Station be expanded for use as the future Naval Headquarters and for Naval Militia training[26]. The Largs Bay Depot was to be disposed of when the upgrading and expansion was completed. No evidence can be found as to why this plan was never continued with although the proposed township of New Haven and its railway link to Port Adelaide planned for the immediate vicinity was abandoned.

The Torpedo Station remained operational until about 1916 when the Port Adelaide Harbor Trust, as it was then known, made it known that they intended to carry out dredging and reclamation work in the area. Approaches were made to the navy offering to exchange land of the same size, 13 acres, at the southern end of Torrens Island, for the Torpedo Station. In 1919 the offer was increased to a site of 23 1/2 acres, but in July the Commonwealth realised that it already owned Torrens Island, having been transferred on federation for quarantine purposes. All naval stores were withdrawn from the area by December 1919, but the buildings and equipment were not completely removed until June 1922.

In his letter dated 20 June 1922[27] to Navy Office in respect of a variation to the 1916 valuation of the site and structures of £3,349 the District Naval Officer, Lieutenant Commander John White RAN, by now well ensconced in the Birkenhead Naval Depot in Fletcher Road, submitted the following comments in relation to the structures and state of the old Torpedo Station:

"Jetty – still at the Torpedo Station."

"Submarine cable well and Shed – made of jarrah and galvanised iron. Most of the jarrah has decayed and the iron rusty. Portions brought to the Naval Depot, Birkenhead and used for backing minature rifle range and as a protection for aiming rifles and 12pdr gun."

"Tramways – Lines and sleepers brought to this depot. A portion has been used as a slipway and the rest stowed away."

"Slip – the Harbors Board purchased this and took it over in 1917."

"Cradles – see note re slip."

"Trucks – brought to this office and stowed away."

"Rails etc – brought to this Depot and used in the manufacture of the slipway."

"Filling shed – still at the Torpedo Station, small portions have been washed away."

"Piling – still at the Torpedo Station."

"Fitting Shop, Store Room, Torpedo Shed – taken to pieces by the RANR staff and materials used in making buildings at Naval Depot, Birkenhead, during the war."

"Blacksmith's Shop – taken down and rebuilt at the Naval Depot for an Examination Service store." "Carpenter's Shop – taken down and re-erected as an Officer's Mess room at Naval Depot, Largs Bay. This room is still at the old site at Largs Bay – now a school."

"Water service – removed from Torpedo Station and used for supplementing the water system at this Depot during the War. A quantity of those pipes are still in store."

Shell fitting room – Shifted to Naval Depot, Birkenhead, some of material being used in building a galley at the Outer Harbor and a store for the Naval Guard at Port Pirie. Both these buildings remain on site on which erected."

"Fire Tank – sold at auction."

"Magazine – the remains still at the station."

The report concluded that "according to information furnished by the Chief Armourer, the work was carried out between the years 1914 and 1918."[28]

It is not known why the proposal to exchange the land took so long to come to fruition. In a report entitled "Comparative Value of Torpedo Station, Port Adelaide and Land Adjacent to the Animal Quarantine Station, Torrens Island" dated 2 August 1922; the author,

The Huon, *the first of six Huon Class minehunters ADI Limited is building in Newcastle for the Royal Australian Navy. Sea trials for the* Huon *will commence next April before she is handed over to the Navy at the end of 1998. (ADF)*

valuer Mr C.H.Richards, has listed previous minutes regarding the progress of the transfer, the initial one being dated 18 July 1919. The Commonwealth formally released the Torpedo Station site to the State Government on or about 17 July 1924[29] in exchange for a site at the southern end of Torrens Island[30]. On 26 September 1929 the wheel turned its full circle when the Commonwealth exchanged the Torrens Island site for land on the upper reaches of the Port River known in earlier years as the Salt House Wharf and Shed. This was the area they had been leasing from the State for 104 pounds per annum and is still in use by the Navy today being used for a boatshed, wharf and Naval Reserve Cadet training area.

It was not until May 1961 that old memories were revived when, during reclamation work on the North Arm site, a 6" BL naval gun minus its shield was recovered from the mud. This gun, shown on an old site plan to have been mounted at the Torpedo Station is believed to have been one of the two naval guns that were the cause of some acrimony between the Naval and Military Commandants in the 1890's. It was originally displayed in a park on Fletcher Road immediately opposite the Birkenhead Naval Depot, then moved inside the depot. With the decommissioning and closure of HMAS *Encounter* in 1994 the plan is for the Port Adelaide Council to mount the gun on what is known as Cruikshank's Corner an area across the river from the maritime museums' lighthouse.

The 2nd Class torpedo boat (TB 1 or 191) referred to previously and inherited by the navy in South Australia was somewhat of an enigma. Ordered by the Tasmanian Government from John Thornycroft and Co of Church Wharf, Chiswick. London in 1883 she arrived in Hobart as deck cargo aboard the merchant ship SS *Abingdon*. After unloading she was towed to the yard of local shipbuilder John Lucas at Battery Point for fitting out. Never officially named she was always referred to as TB 1, although her builders yard number had been 191 and her sisters, 189, 190 and 193 had been named *Nepean, Lonsdale* (Victorian Navy) and *Mosquito* (Queensland Naval Force) respectively. Constructed of galvanised steel she was 63ft long with a 7ft 6in beam and drafts of 1ft 1in forward and 3ft 2in aft. Displacement was 12.5 tons and she was steam driven with a single screw, a maximum speed of 17 knots and an economical speed of 3 knots[31].

Originally fitted to carry the McEvoy spar torpedo, the Tasmanian Torpedo Corps had opted for the Whitehead/Fiume torpedoes with associated dropping gear to be fitted. This was carried out in 1885. When the new equipment was installed it dictated the removal of the torpedo spar and the port funnel. The starboard funnel was moved further forward and the twin barrelled Nordenfeldt 1" machine gun was moved near the conning tower where the helsman sat[32]. Little used she was laid up in 1894 through lack of finance and again in 1895 when the 160ft long slipway to her boatshed partially collapsed[33].

The 1896 Naval Intelligence Report[34] makes little reference to this vessel except in the following terms with regard to the Tasmanian Military at page 95:

"a. There is no Colonial Naval Force, but there is a retired Captain RN who has the title Commander of the Batteries. He has charge of the torpedo-boat and stories: and

b. The boat is dismantled and the torpedoes in store at Hobart."

In 1990 the Tasmanian government made the decision to dispose of TB 1 and her equipment. This stirred the Torpedo Corps of the Tasmanian Engineers to actually fire a weapon before the boat left the state One torpedo was fired and although the launch was successful, the weapon as never seen again [35]. Federation overtook the disposal decision and the vessels was transferred to Port Adelaide to become a unit of the Commonwealth Naval Forces.

NOTES

1 SA Parliamentary Paper 43/1866 dated 28 August 1866.
2 SA Parliamentary Paper 19/1866-67, undated.
3 SA Parliamentary Paper 45/1876, undated.
4 *Oxford Illustrated Encyclopedia of Invention and Technology*, p 226.
5 Maurine Griffiths *The Hidden Menace*, p 31.
6 Message No 2/1862 from His Excellency The Government Contained in SA Parliamentary Paper 30/1882 dated 6 June 1882.
7 Report of the Military Committee of Enquiry 1901, Part 1.
8 Quoted by R.L. White in *Tasmania Corps Torpedo Boat* published in 'Sabretache' Volume XVIII of January, 1977, p 33.
9 Tom Perlmutter (Ed) *War Machines at Sea*, p 78.
10 Edwyn Grey *The Devil's Device*, p 224.
11 Report of the Select Committee on the Defence (Military) Forces. SA Parliamentary Paper 112/1887 dated 1 December 1887.
12 SA Parliamentary Paper 80/1890.
13 SA Parliamentary Paper 106/1892.
14 SA Parliamentary Votes and Proceedings 1895, p77.
15 *Adelaide Observer* of 27 June 1924, p 47.
16 *British Colonies, Australian Station. Precis of Existing and Proposed Defence (Revised) 1896*, p 62.
17 Report of the Military Committee of Inquiry 1901.
18 Admiral Sir Richard Henderson *Naval Froces for the Commonwealth*, Annex K.
19 Department of Defence letter S1924/1/9 of 11 July 1913.
20 Australian Archives file MP472 Item 18/11/2562.
21 District Naval Officer SA letter of 22 September 1911.
22 *Ibid.*
23 Naval Board letter dated 1 November 1911.
24 Naval Board minute of 28 August 1911.
25 Naval Board minute of 5 September 1911
26 Report on the Naval Depot at Adelaide, dated 28 August 1911.
27 District Naval Officer SA letter 21/1/6 dated 20 June 1922.
28 *Ibid.*
29 Letter by the Premier of SA dated 5 June 1924.
30 Commonwealth Gazette No 52 of 1924.
31 R.L. White *Tasmania Corps Torpedo Boat* published in *Sabretache* Volume XVIII of January 1977.
32 *Ibid.*
33 *Ibid.*
34 Precis of Existing and Proposed Defence 1896, p 62.
35 White, *Op Cit*, p37.

A Peter Mitchell Prize Winning Essay

Is Control of the Sea Still in Dispute?

Lieutenant Commander M. A. Brooker, RAN

'To use the sea a nation must have sufficient freedom of action for its purposes. When and where this freedom is challenged, a nation must first protect or establish that freedom before the sea can be used.'[1]

Introduction

Since mariners first began to articulate the nature of sea warfare, free use of the sea has been a common objective for nations during both peace and war.[2] The free use of the sea in peace allows a nation to derive economic benefit from the sea, either through the exploitation of the sea's resources or through vital seaborne trade. During conflict, control of the sea allows a nations military forces to have flexibility in manoeuvre, project power ashore without substantial interference and resupply forces engaged overseas.[3] Despite many historical terms, the contemporary term for this freedom is 'sea control'.

For most nations the end of the Cold War signalled a new era in strategic thinking; an era of strategic adjustment where nations re-evaluated, amongst other things, the roles and missions of their armed forces. For the United States the absence of the Soviet threat resulted in a fundamental shift in national security policy and subsequently saw the United States Navy (USN) rethink its maritime strategies. The new maritime direction, outlined in the United States Department of the Navy and Marine Corps White Paper .... *From the Sea*[4], aims at providing the United States with 'naval expeditionary forces, shaped for joint operations, operating forward from the sea and tailored for national needs'.[5] The White Paper contends that the USN has effectively 'won' sea control allowing it to refocus on the 'more complex operating environment of the littoral' and projection of power ashore.[6]

If the USN has 'won' sea control, then one might ask whether control of the seas is still in dispute. Is it possible for regional navies to make the same assumption and refocus on other more important tasks. The purpose of this essay is to determine the importance of the sea control mission for regional navies. The main body will provide a definition of sea control and outline the geostrategic factors that make the sea control mission important. The USN's claim will be reviewed from a theoretical perspective and in context with the operational capabilities required in *...From the Sea*. The paper will then identify the national priorities and strategic guidance that determine the importance of sea control to regional navies.

For the purposes of this essay regional navies refers to the small and medium sized navies of Australia and South East Asia. Deliberately the essay will use, where appropriate, specific examples from the region to highlight the importance of the sea control mission to regional navies rather than an obtuse regional travelogue.

The Sea Control Mission

Since the 1960s, the main theme in contemporary maritime strategy has been 'sea control'.[7] Although the term has many similar definitions in the writings of maritime strategists, it is perhaps best described in British Maritime Doctrine as 'the condition in which one has freedom of action to use the sea for one's own purposes in specified areas and for specified periods of time and, where necessary, to deny use to the enemy'.[8] Further amplification of the term 'sea control' is provided by Stansfield Turner in his key work, 'Missions of the US Navy'. Turner points out that sea control has two main elements; sea assertion and sea denial. The term 'sea assertion' refers to methods used by a state to assert its right to use some seas for some period of time and 'sea denial' is the situation when an enemy is denied the right to use some seas for some period of time.[9]

The British definition reinforces the common opinion of maritime theorists, that sea control is 'essentially a relative not an absolute thing'.[10] On the other hand the definition does not stipulate that sea control must be limited to war nor is there a requirement for the enemy to be a military force. Although sea control is likely to be a component of any maritime campaign, if there is any risk to freedom of action at sea, sea control methods are likely to be an important part of maritime operations.[11] Given these circumstances one could conclude that it may be necessary in peacetime for a nation to adopt sea control measures to assert its rights over sovereign territory, protect sea lines of communications (SLOC) or resources within its Economic Exclusion Zone (EEZ). Similarly, 'sea denial' operations may be required to deny non-traditional enemies such as drug smugglers or illegal fisherman use of the seas within the EEZ of the state.

The importance of the sea control mission is directly related to how it supports national priorities. The extent to which they might be employed is dependent on a number of geostrategic factors including the states geography, maritime environment and the dependency on seaborne trade. The geography and maritime environment are likely to dictate the type of resources available within an EEZ, the potential for conflict over territory with regional neighbours and may be an important strategic feature in defence planning. The extent to which a state is economically dependent on seaborne trade will be important for national economic stability and growth. The importance of all these factors is particularly evident when considering the regional navies of Australia and South East Asia.

The United States Navy Perspective on Sea Control

With the USN claiming to have 'won' sea control it is appropriate to review the historical importance of sea control to the USN and place this claim in context with the operational capabilities required in the new strategy, ... *From the Sea*.

The USN has had a clear impression about why sea control is important since at least World War II. The use of sea control was a key feature of General MacArthur's island hopping campaign across the Pacific in World War II and even then the USN seemed to have won a monopoly on sea control. It was during the Cold War that the sea control mission re-emerged as a critical task for the USN. This time, sea control became important as a means of ensuring the United States had free use of the sea as a launch site for nuclear weapons and at the same time denying the former Soviet Union use of the sea for the same purpose.[12] As the Cold War unfolded it became common to discuss the USN's strategic roles as 'sea control' and 'power projection'.[13]

The theoretical basis for the USN strategic roles in the Cold War where provided in 1974 by Vice Admiral Stansfield Turner in his key paper, *Missions of the US Navy*. Although the paper reaffirmed the concept that sea control was 'intended to connote more realistic control in limited areas and for a limited time', it also highlighted the importance of sea control in meeting US national objectives. The four national objectives requiring some form of sea control were 'to ensure industrial supplies; to reinforce and resupply military forces engaged overseas; to provide wartime economic/military supplies to allies and to provide safety for naval forces in the projection of power ashore role'.[14]

The US Navy's new strategy in the 1992 White Paper, *...From the Sea* and the 1994 supplement *Forward .... From the Sea*[15], describe how the USN is now able to claim 'command of the seas' and ensure freedom of commercial maritime passage. As a consequence the White Paper allows for a resizing of forces so that the USN might concentrate on the complex operating environment of the 'littoral'.[16] The underlying message in *...From the Sea* appears to be that power projection and success of the expeditionary force ashore are the first priority, and safety of the fleet is second.[17] Although one might draw the conclusion that sea control is now less important, the USN has not assumed away Turner's sea control objective of 'providing safety for naval forces in the projection of power ashore role.'[18] *...From the Sea* makes this point when it describes a requirement to 'dominate the battlespace as a prerequisite for the projection of power ashore'. The White Paper goes on to state a requirement for the USN to seek and assert sea control when it states that 'naval forces must have the capability to deny access to a regional adversary, interdict the adversary's movement of supplies by sea, and control the local sea and air'.[19] Turner's sea control objective 'to reinforce and supply military forces engaged overseas is also an important operational capability described in the White Paper as 'force sustainment'.

Like the historical term 'command of the sea', the claim that the USN has 'won' sea control connotes an absolute that cannot be supported. Sea control is by definition a broad term that spans all levels of conflict including peacetime activities. The White Paper has not assumed away the importance of sea control but in fact reinforced its importance as a key operational capability in the new maritime strategy under the heading 'battlespace dominance'.

Sea Control Objectives for Regional Navies

While *...From the Sea* tends to deal with the USN's deployed operations, regional navies are generally focused on operations within the state's EEZ and territorial seas. Like the USN, it is the national priorities and strategic guidance that determine the importance of sea control in a regional navy's maritime strategy. The national priorities that might cause a regional navy to seek and assert sea control include protection of the EEZ and the resources within; denying illegal fisherman use of the EEZ; asserting sovereignty over disputed maritime territory; protecting SLOCs and vital seaborne trade; denying use of the sea to non-traditional enemies of the state, such as pirates and drug smugglers; as part of the states defence strategy and force protection in the projection of power ashore role. For some the provision of a credible threat of sea denial, indicative of Turner's peacetime sea control mission[20], is important.

Defending the EEZ and Sovereign Territory

With changes to the maritime law covering the states rights over the EEZ, improved methods of seabed extraction and the potential for increases in national wealth, free use of the resources within the EEZ has become an important national priority for Australia and many South East Asian countries. Similarly, the fish stocks within the EEZ are important to many of these states as food source and income. The protection of these EEZ resources has in the majority of cases become the responsibility of the regional navies. Although these protection tasks might be considered by some as constabulary tasks, the overlap with the territorial defence role of these regional navies has caused some states to define resource protection as, defence of the EEZ.[21] In this context freedom to use the EEZ and the protection of offshore resources is likely to require some form of sea control that asserts the states rights over the EEZ or denies an adversary access to the EEZ.

A good example of this approach is the Philippines. With estimated losses in 1987 of US $740m worth of tuna caught illegally and the increase in offshore seabed exploration, the protection of resources has become important to the Philippines' developing economy. The Philippine Navy's 'blueprint' to meet the national priorities, calls for the development of a sea control capability to eventually control its EEZ.[22] Similarly, Malaysian naval objectives include the protection of offshore oil and gas platforms from acts of sabotage and safeguarding the sovereignty of the EEZ.[23] Like the Philippines, Malaysia's force development program includes many sea control assets that will be capable of completing this task.

The expanded search for offshore resources has also increased the priority given to asserting sovereignty over disputed maritime territory in the South East Asian region. With a number of conflicting claims to areas such as the Spratly Islands in the South China Sea, many regional claimants have sought to show a capability to deny others use of the sea around those islands. Malaysia's deployment of amphibious forces to Swallow Reef in 1983 is an example of using naval forces to assert sovereignty claims over contested territory.[24] Malaysia also has a number of jurisdictional overlaps in the further reaches of the South China Sea that may require it to show an ability to seek and assert sea control.

Although there is a move towards dialogue on conflicts over territory in South East Asia, the resources that might exist in the EEZs of these disputed territories remain important to the developing regional economies that are keen to secure resources for future development. Use of sea control measures or the threat to deny access to sea areas will continue to be an important mission for these regional navies while defending the EEZ or asserting sovereignty over contested territory.

Protection of Maritime Trade

The importance of maritime trade to regional states is highlighted by the fact that in 1990 the major ports of South East Asia and the Far East handled a total of about 28 million containers.[25] The geography and success of the growing economies in the region has dictated a heavy economic reliance on seaborne trade. The protection of this seaborne trade from adversaries has also become vital to the economic livelihood of the region and an important national priority for most regional states.

Australia is a prime example, with about 38 percent of the Gross Domestic Product (GDP) coming from seaborne trade and over 40 percent of export trade destined for Asia.[26] The interdiction of shipping or closure of a major Australian port would have important economic implications for the nation.[27] If a threat to shipping did develop, the RAN would need to use some form of sea control such as 'chokepoint control' or 'local engagement'[28] to protect its vital seaborne trade along the SLOCs.

The use of sea control methods to protect shipping and SLOCs is not just limited to conflict. A significant threat to the safe passage of seaborne trade in South East Asia is piracy. Where piracy is rife and modern weapons are being used, the task of protecting shipping could have the same characteristics as the other forms of protection discussed above.[29]

Territorial Defence

Whether it the United States or a country in the region, the defence of sovereign territory is considered important to every state. Regional states such as Australia and Malaysia with long coastlines and sea approaches; archipelagic states such as Indonesia and the Philippines; and Singapore who dominates the strategic position at the entrance to the Malacca Straits realistically expect the threat of attack to come from the sea. Because of the geography, denying an enemy free seaborne access to the littoral tends to be an important part of these nations defence strategy.

This is certainly the case for Australia as evidenced by *Strategic Review 1993* and the current Australian Government Defence White Paper, *Defending Australia 1994*. Both documents highlight a number of key objectives in defending Australia. These include controlling the sea-air gap in order to deny the enemy maritime and air access to the Australian mainland, and maintaining our freedom to manoeuvre.[30] These objectives imply use of sea control operations and represent an important part of Australia's national defence strategy.

Other nations in the region also view the sea control mission as an important part of their territorial defence strategies. This is evidenced in the force capabilities of regional navies such as the Republic of Singapore Navy (RSN) which has developed a credible sea control capability with its Victory class corvettes.[31] Similarly, Malaysia has improved its sea denial capability with the introduction of fast attack craft with surface to surface missiles and the introduction of corvettes.[32]

Force Protection

Notwithstanding the local focus and the territorial nature of sea control objectives described so far, the capability to project power is either present or is being acquired by some regional navies. Regional navies with an amphibious capability, such as Australia and Indonesia, may need to seek and assert sea control in order to provide some measure of force protection from an adversary. Likewise, sea control methods may be required in a hostile environment to protect the small helicopter carrier being acquired by Thailand. The size of these navies and their inability to regenerate these key capabilities will, like the USN, make protection through sea control an important task.

Conclusion

The strategic concept of sea control has had a prominent place in maritime strategy for over a century. It is a strategy that allows a nation to have freedom of action to use the seas for its own purposes and when necessary, deny use to an enemy. By definition sea control is a strategy that is applicable over all levels of conflict, including peace.

Despite perceptions that the USN has claimed to have 'won' sea control, the new direction in *...From the Sea* continues to place significant importance on the ability of naval forces to achieve free use of the sea in both the maritime and littoral environments. The operational capabilities of 'battlespace dominance', 'power projection' and 'force sustainment' are important aspects of the USN's new strategy that still require naval forces to continually seek out and assert sea control.

For regional navies the importance of the sea control mission rests within the national priorities and strategic guidance. The strategic geography and domestic economies of Australia and South East Asian states has ensured that the defence of EEZs, protection of SLOCs and territorial defence are a priority in strategic guidance. The defence of resources within a states EEZ, protection of vital seaborne trade and the assertion of sovereignty in disputed territory require some form of sea control to be effective. The strategic geography and maritime environment of Australia and South East Asian states has also made the sea control mission a significant part of these nations defence strategies. Likewise, the protection of power projection capabilities present in some regional navies is an important task that will require some form of sea control.

The continuing importance of sea control rests in the fact that it allows a nation to have freedom of action in use of the sea. Regardless of size or strategic focus, the requirement for navies to seek and assert sea control in the support of national priorities remains important to regional navies.

NOTES

1 BR 1806, *Fundamentals of British Maritime Doctrine*, p4-1.
2 Hill J.R. *Maritime Strategy for Medium Powers*, Croom Helm, London, 1986. p82.
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4 The full title of the document is *...From the Sea: Preparing the Naval Service for the 21st Century*. References made in this essay pertain to the edition published in the US Marine Corps Gazette, November 1992.
5 *ibid.*
6 *ibid.*
7 Booth K. *Navies and Foreign Policy*, Holmes and Meier, New York, pp117-118.
8 BR1806, p 4-2
9 Turner S. *loc cit.*
10 Till G. *Maritime Strategy and the Nuclear Age*. 2nd edition, Macmillan, London, 1984. p130.
11 BR 1806, *loc cit*
12 Turner, *loc cit.*
13 Till G. *Maritime Strategy, op cit*, p 62.
14 Turner, *loc cit.*
15 *'Forward ... from the Sea'* updates and expands the 1992 white paper *'...From the Sea'*. It amplifies the scope of the strategic concept and addresses the unique contribution naval expeditionary forces have to make in peacetime operations.
16 *'...From the Sea', loc cit.*
17 Breemer J. Dr, *Naval Strategy is Dead*, Naval Proceedings, United States Naval Institute, Feb 1994.
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26 Interpolated from Year Book Australia 1996 (Australian Bureau of Statistics) graph on page 653 showing Exports and Imports as a share of Gross Domestic Product (GDP).
27 Australian Government *Strategic Review 1993*, Canberra, 1993. p 63.
28 The terms *chokepoint control* and *local engagement* are two tactical approaches for achieving sea control as outlined by Stansfield Turner in *Missions of the US Navy*.
29 BR 1806. *op cit*, p5-11.
30 Strategic Review 1993. *op cit* p12.
31 Saw D. *The Republic of Singapore Navy: Naval Defence for the Island Nation*, Asian Military Review, Media Transasia Ltd, Hong Kong, Vol 2 Issue 6, December/ January 1994/1995.
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Wanderings of a Belgian Sailor

De Odyssee van een Belgisch Zeeman by Commodore Daniel Geluyckens, RBN (retd), Uitgeverij De Dijle, Deurle, Belgium 1996

When the Belgian Defence Minister announced in April 1995 that the Royal Belgian Navy would henceforth be placed effectively at the disposal of the Royal Netherlands Navy, there was little international comment. Belgium after all is a very small nation and Minister Delacroix's statement was probably seen by those who knew of it as just another of the currently fashionable actions whereby governments divest themselves of every conceivable responsibility. Few would have noticed that Belgium was almost returning to the conditions of 1940.

It was, however, the case that in that fateful year Belgium did not possess a navy. Why a maritime nation with overseas colonies should lack a navy is another question; but what is particularly interesting is the series of events that this fact set in train.

Belgium did have a Merchant Navy and that navy possessed a training vessel. She was a three-masted barquentine named the *Mercator*, built in Leith, Scotland. In February 1940, this vessel set sail from Ostend on her 21st training voyage. She had a complement of 74 men including the captain and 10 other officers, 23 permanent crewmen, 29 cadets and 11 apprentices.

The proposed voyage was, not surprisingly, the subject of some controversy since Europe was already at war again; but the Belgians hoped against hope that this time they would be able to retain their neutrality – and perhaps they thought that if they acted normally, they would not be noticed by the combatant powers. At any rate, the *Mercator* sailed away, its crew having first taken the precaution of avoiding any misunderstanding by painting the words *Belgique-Belgie* in large black letters on either side of the grey stern. Powerful searchlights were also erected to illuminate these signs.

The voyage went well and the trainees had found their sea-legs by the time the vessel reached Teneriffe on 6 March. From there she sailed to Rio de Janeiro, where she remained in April for a week before continuing across the South Atlantic towards the Belgian Congo. Soon after they arrived in Angola, the news came that their nation had capitulated to the invading Germans. The signs on the *Mercator*'s stern were painted over; the searchlights were dismounted; and the vessel sailed on with all speed to the mouth of the Congo River, where she arrived at last on 1 June 1940.

Among those on board was a young cadet named Daniel Geluyckens, the author of this book. From the Congo, the ship's company dispersed. Some went to Kenya to join the British forces there; others were able to secure passage to Freetown in Sierra Leone, where they offered their services to the British Royal Navy and were forwarded on the Britain. Geluyckens was one of these.

It is here that the true Odyssey of his title began, for he was to spend the next several years serving in a foreign navy, unable to return to his homeland. For their part, the British authorities acted with commendable originality. Seamen of all kinds, including large numbers of fishermen, were crossing to North Sea and volunteering for service. In most cases, such as the French and the Dutch, these were to form the nucleus of a national Navy in Exile. But Belgians had no navy to belong to. Thus the Admiralty Fleet Order No. 1379/41 announced what arrangements had been made for them. A new body was to be formed called the Royal Navy (Section Belge). It was to organise, under British officers initially, a means of incorporating Belgian fishermen and others into a fighting force. Perhaps the most remarkable order was that of January 1942 which announced that vessels manned by the Royal Navy (Section Belge) were to wear the Belgian Ensign and the White Ensign side by side at the ensign staff or peak.

Geluyckens himself was sent to the Britannia Royal Navy College at Dartmouth for training – which included learning English. At the end of March 1942, he emerged top of his class and a Midshipman RNR, being still only 19 and too young for a commission.

From then on, Geluyckens's life followed a similar pattern to that of many a young Briton caught up in the machinery of war. After gunnery training, he served first in HMS *Wellington*, a sloop of the Grimsby class, in which he experienced the boredom and horror of Atlantic convoy duty. Commissioned as a Sublieutenant on his 20th birthday, he served further in the Atlantic and the Mediterranean. All this he describes in his book in a remarkably vivid and interesting way; but the real excitement came when he transferred in Alexandria to HMS *Jervis* as gunnery officer.

This extraordinary destroyer of the *Javelin* class was to become known as the 'Lucky Jervis', and Geluyckens tells us from first-hand experience just how she came to deserve the title.

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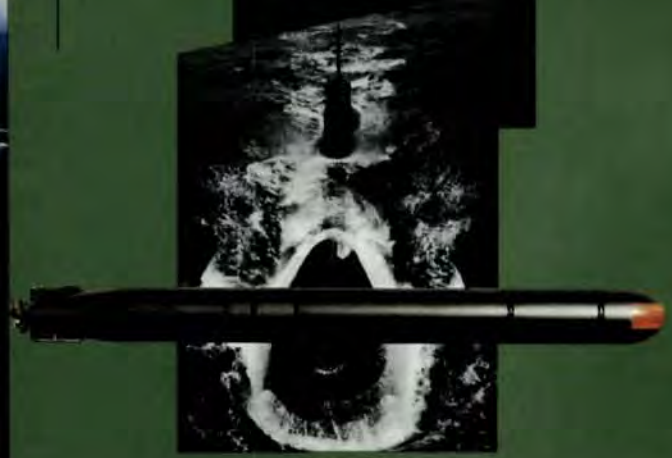

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By the end of the war, the *Jervis* had earned no less than 13 battle honours, a distinction equalled only by the cruiser HMS *Orion* and the destroyer HMS *Nubian* and exceeded only by the famous battle cruiser HMS *Warspite*. Even more remarkable is that, after an unfortunate collision with a Swedish freighter in March 1940, the *Jervis* survived the remainder of the war, even having her bows blown off by a 'flying bomb' off the Normandy beaches, without suffering even one casualty.

Geluyckens himself was sad to leave his ship, but found himself in October 1944 in a khaki uniform with a naval cap boarding a 'landing ship tank' at Harwich and eventually returning to Ostend, the Belgian port from which he had sailed in the Mercator more than four years before.

This was not the end of the war, of course, but it was the end of the author's Odyssey. After the war he remained in his country's service and rose to the rank of Commodore and an important staff post with NATO.

His book, unfortunately only yet available in Dutch (Flemish) and French, is written for the layman and tells its story informatively and interestingly, with many touches of gentle humour. The overwhelming impression is of a man one would greatly like to know. Moreover, the book is lavishly illustrated with black-and-white photographs, which help to bring an already lively narrative to even more vivid life.

It is much to be hoped that this book will eventually appear in English as a fascinating footnote to a little-known aspect of the Second World War: the birth of the Royal Belgian Navy in the guise of the Section Belge of her ally across the English Channel.

Philip Grundy, Canberra

Book Reviews

***Naval Documents of the American Revolution*, Volume 10. American Theater: October 1, 1777-- December 31, 1777. Michael J. Crawford, editor, E. Gordon Bowen-Hassell, Charles E. Brodine, Jr., and Mark L. Hayes, assistant editors. Forward by President Bill Clinton. Introduction by William S. Dudley. Illustrated. 1,350 pp. Washington, D.C.: Naval Historical Center, 1996.**

Reviewed by Graham Wilson

NAVAL DOCUMENTS OF THE AMERICAN REVOLUTION, VOLUME 10. Edited by Michael J. Crawford. Washington, D.C. Naval Historical Centre, 1996. 1,350 pp. (US)$55:00. This is the tenth volume in a monumental work originally commenced in the 1960s and designed to trace the naval history of the American Revolution by the use of contemporary documents – letters, manifests, prize tickets, logs, muster rools, officer's journals etc. Each volume in the series covers a very short period of the war, this volume for instance dealing with the period from 1 October to 31 December, 1777. The documents selected illustrate naval doctrine and tactics of both the American and British navies. More importantly possibly, they also illustrate the day to day life of the opposing navies – such things as division of prize money, recruitment, discipline, victualling, treatment of prisoners of war, desertion rates etc. When reading through the book, several continuous strands become evident. One of these is the extremely fractious nature of American naval effort, with the Continental Navy and its Board competing not just with the Royal Navy but also with the naval boards of several states who maintained and operated their own navies and competed with each other for resources, men, ships and prizes. A monumental work of reference in a monumental series, this book is definitely not the sort of thing you take to bed for a diverting read before nodding off. On the other hand, it is a superb reference volume which provides avaluable insights into the role of both America's struggle for independence. With a foreword by President Clinton and number of excellent black and white illustrations, the book includes excellent chapter notes, maps and charts, comprehensive bibliography, a number of informative appendices and a superb index. Highly recommended.

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