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- to encourage and promote the advancement of knowledge related to the navy and the maritime profession,
- to provide a forum for the exchange of ideas concerning subjects related to the navy and the maritime profession, and
- to publish a journal.

The Institute is self-supporting and non-profit making. All publications of the Institute will stress that authors express their own views and opinions, which are not necessarily those of the Department of Defence, the Chief of Naval Staff or the Institute. The aim is to encourage discussion, dissemination of information, comment and opinion and the advancement of professional knowledge concerning naval and maritime matters.

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OF

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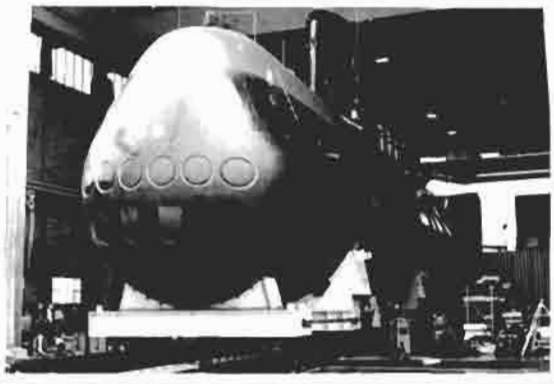


DEPARTMENTS

FEATURES

Cover: Streaming a mini-sweep - *ADI Mine Warfare Development*
Photographer - John Mortimer

FROM THE EDITOR

Dick Sherwood

This our third journal for 1993, and brings to our readership a wide cross section of material.

The issue leads off with a paper on Naval Diplomacy by Lieutenant Commander Mark Harling, which won him the *ANI Silver Medal*, on the first RAN Staff Course of 1993. Two papers, one by Alan Hinge and the other by Graeme Dunk, both from the seminar conducted by the Institute in Sydney in May on *developments in maritime warfare* are also produced in this volume.

Additionally there is a paper by a young Sydney based South Korean academic on maritime security developments in South Korea. It was delivered at a seminar cohosted by the RAN's *Maritime Studies Program,* in Canberra in May and it is intended that a further selection of papers from both seminars will be published in the November volume.

The full proceedings of these seminars will be published as monographs towards the end of the year and every endeavour will be made to make them available to ANI members at a discount price.

This journal also contains an one of the prize winning essays from last years *Peter Mitchell Essay Competition*, and provides some interesting thoughts on the effects that social change can and is having on military leadership. Ian Pfennigwerth has again contributed with a thought provoking article with what is not right in naval telecommunications. Finally there is a short historical piece from an overseas contributor.

Unfortunately, there were no suitable books available at a reasonable discount and we have had to, after only four issues, forego the Book of the Quarter for this volume. It is anticipated that we will have something on offer by November.

What we do offer in this journal is an exciting new initiative in the form of the ANI - Film Australia, sponsored Naval and Maritime Photographic Contest. This is a contest open to ANI members only and brings with it some highly rewarding prizes.

Finally, the dreaded plea about **finance**. Our notices in the journal got to about two-thirds of our members although we did have to send a separate reminder notice to the other third. For 1993 the response has been fairly positive, with about 85% of our membership renewing and many for multiple years. Unfortunately, we cannot keep chasing everyone, so if any of your comrades complain about not having received this journal tell them to check their financial status.

Current financial status is shown in the top left hand corner of the mailing label. For example if you are current for 1993 you will have **93**, in the top left hand corner. To those members who are on the move, please forward us your change of address. Do not forget to put you name as well as the new address on the **Reply Paid envelope.**

FROM THE PRESIDENT

Don Chalmers

As we enter the final quarter of 1993 we look back on a year in which much has been achieved and forward to a busy period ahead. Your Council has worked hard to update and purify our membership lists and we find ourselves with a better understanding of and with a healthier financial situation.

Looking ahead we have the prospect of a number of speakers for our annual *Vernon Parker* oration; Film Australia have agreed to sponsor an annual photographic competition, and one of our *friends* CSA is co-sponsoring with the RAN's Maritime Studies Program the major conference *Australia's MaritimeBridge into Asia*, in November this year, and we are working toward co-sponsoring with the MSP, the University of WA and the Indian Ocean Centre for Peace Studies at one day seminar on *Indian Ocean Maritime Security* in Western Australia (HMAS *Stirling*) in November also.

In the last issue I identified a number of issues we should be addressing in our journal and look forward to seeing articles in the near future on those topics. I specifically focussed on the change in strategic thinking in the Asia-Pacific region and on Australia's involvement. I would also think it useful if we were to contemplate the possible outcome of an Administration in Washington which becomes increasingly Eurocentric. What effect might that have in our region?

Another topic worthy of debate is that of contributing to Peacekeeping and Peacemaking with multi-national naval forces. Issues such as interoperability, Command and Control (loose association - does it and can it work), Rules of Engagement (retaining sovereignty) are all thorny.

Again there is much experience within our midst - please share that experience with us all.

AUSTRALIA'S MARITIME BRIDGE INTO ASIA

MAJOR CONFERENCE - SYDNEY - 17-19 NOVEMBER 1993

The aim of the conference is to demonstrate the significance of Australia's maritime links with Asia. Specific objectives are to show how these links provide an important means by which Australia can forge better relations with Asia and to identify opportunities available in Asia for Australia's marine industries.

All Asian countries depend on the sea for foodstuffs, trade and longer term economic prosperity. Many are investing heavily in offshore resource developments, particularly for oil and gas. The growing importance of the sea to regional countries is reflected in their expanding merchant shipping fleets, the emphasis on maritime capabilities in the development of their military forces, and the attention now paid to claims on offshore territories. Maritime issues are likely to assume even greater importance in the years ahead.

There is great potential here for Australia to participate in these developments. Australia is a maritime nation itself with extensive maritime interests and considerable skills and expertise in the marine industries, and marine science and technology. These suggest an area worthy of special emphasis in Australia's relations with Asia.

The conference will explore aspects of Australia's maritime links with Asia. Plenary sessions will consider the broad strategic, economic and political context and separate industry/special interest sessions will address issues specific to individual areas of interest such as shipping, defence, offshore resources, education and training, marine safety, shipbuilding and marine science and technology. One half day will be set aside for organised visits by conference participants to centres of maritime interest in the Sydney and Wollongong areas.

Highly qualified speakers from both Australia and Asia will be invited to address the conference. It is expected to make a major contribution to understanding regional maritime issues and where Australia can make a significant contribution to the mutual benefit of both Australia and the Asian countries themselves.

The venue is the Resort Hotel at Brighton-Le-Sands, is a very attractive location right on Botany Bay, close to the airport and not too far from the Central Business District. It was the location of the very successful *Maritime Change in Asia* conference held in November 1991 and the forthcoming conference should be even more successful.

The conference is planned for the week preceding the *Offshore Australia* and *Maritime Technology* conferences to be held in Melbourne 23-26 November 1993. To make their time in Australia more worthwhile, the overseas naval visitors will be invited to attend these conferences as well. There would thus be an excellent opportunity to promote Australian marine industry to the maritime defence community of Asia.

Contact: Maritime Studies Program
Tel:(06) 266 6114
Fax:(06) 266 6754

FILM AUSTRALIA

The Australian Naval Institute and Film Australia Present the Inaugural Naval and Maritime:

PHOTOGRAPHIC CONTEST.

The Australian Naval Institute and Film Australia are proud to cosponsor the inaugural Naval and Maritime Photographic Contest.

The contest is open to both amateur and professional photographers who are members of the ANI. The winning photographs will be published in a 1994 issue of The Journal of the Australian Naval Institute. Cash prizes will be awarded as follows:

1st Prize	**$500**
2nd Prize	**$300**
3rd Prize	**$200**
Honourable Mention (5)	**$100** each

ENTRY RULES

1. Each photograph must pertain to a naval or maritime subject. (The photo is not limited to the calendar year of the contest).
2. Limit: 5 Entries per member.
3. Entries must be either black-and-white prints, colour prints, or colour transparencies.
4. Minimum print size is 127mm x 178mm.
5. Minimum transparency size is 35mm. (No glass mounted transparencies please.)
6. Full captions and the photographer's name, address, and ANI membership number must be printed or typed on a separate sheet of paper and attached to the back of each print or to the transparency mount. (Do not write directly on the back of the print. No staples please.)
7. Entries may not have been previously published, and winners may not be published prior to publication in the Journal of the Australian Naval Institute. Prior publication could result in relinquishment of prize awarded.
8. Only photographs accompanied by self-addressed, stamped envelopes will be returned.

DEADLINE: 28 FEBRUARY 1994.

Write for details or mail entries to:

NAVAL & MARITIME PHOTOGRAPHIC CONTEST
ANI
PO Box 80
Campbell ACT 2601

Phone: 266 6873

LETTER TO THE EDITOR

The Editor
Journal of the Australian Naval Institute

Dear Sir,

Tome Frame's vitriolic attack on J.A. (*Rocker*) Robertson in the May 1993 edition of the *Journal of the ANI*, left me uneasy.

When I originally read *Where Fate Calls*, I thought Tom had two things wrong. Firstly, he appeared not to have satisfactorily captured the 'scuttle-butt' of the period, particularly with regard to the veracity of the Cabban statement. Secondly, his appreciation of the signal traffic between *Melbourne* and *Voyager* prior to the collision seemed to me to be speculative and mis-advised.

This all seems a pity, because *Rocker*, was the one person who could have Tom with these possible problems. Not only was *Rocker* the XO of *Voyager* prior to Peter Cabban, but also he was not long before that the SCO in *Melbourne* and thus a considerable expert on the communications and fleetwork practices of the period. But unfortunately, *Rocker* is a conspicuous omission from the list of those Tom consulted in his research for *Where Fate Calls*.

I am left with the unfortunate feeling that just as it was with the original *Voyager* tradegy, *Where Fate Calls* also reflects a sad breakdown in communications.

SAM BATEMAN
Commodore, RAN

WASHINGTON NOTES

Tom A Friedman in the United States of America

Bill Clinton's lack of military service during the Vietnam War has been a source of recurring discussion in the United States. What became a non-issue in the election is being kept alive by those who want to poison the President's relations with the armed forces.

I remember when the Vietnam War was not as fashionable as it is today. Many Americans believed we were right to intervene in Vietnam from the first day to the last. Others believed we were wrong from the beginning. For still others, support slowly and painfully eroded into opposition. I was one of the latter group.

From the time I was 14 years old until I was 23, the United States was at war in Vietnam. We were at war so long, in fact, that I remember telling one of my law school classmates on the night the Paris Peace Accord was signed that I could barely remember a time when we were *not* at war.

I was reared in a home where Commodore Stephen Decatur's toast to "our country, right or wrong" meant something. But I also was reared in a home where I was encouraged to ask questions. And I had many questions about Vietnam.

If we were going to fight in Vietnam, why did we not support the French when they fought the Communists? Was the Vietnam conflict not a civil war? The United States Government exerted every available inch of pressure at its disposal to keep major European powers out of our Civil War, a war won by the Union in part because there was no foreign intervention. Were we any different to the Vietnamese in 1963 than the French and British were to us in 1863?

Why did Ho Chi Minh, a staunch friend of the United States during World War II, not merit at least the same support we gave Marshal Tito, our "favorite" Communist? Both were dictators whose regimes permitted neither free elections, free speech nor any of the other freedoms Americans so value.

We were told that we were fighting to save democracy like we did during the Second World War. But the comparison of the South Vietnamese Government to nations like Britain, France, Australia, Norway and others was ridiculous. The South Vietnamese Government was utterly corrupt. Coup followed coup. Was this really fighting for democracy? The Saigon police chief shot a suspect in the head on television! Was this a government worth the fight? Was it worth lying down so many lives?

And, most important, why were we spending so many lives and so much treasure and still not winning? Why were so many of our friends and allies opposed to what we were doing in Vietnam? Even the Australian Government knew when it was time to fold.

Undoubtedly there were people who wanted to fight in Vietnam, particularly early in the conflict. And I suspect I was like the overwhelming majority who felt it was our *duty* to

serve whether we agreed with the war or not.

The form of selective service in effect during Vietnam was patently unfair. Unlike the drafts of the world wars, everyone was not included. Deferments, particularly student deferments, were readily available and it meant if you could afford to go to college you could afford to avoid the draft, at least as an undergraduate. The draft law was reminiscent of the first draft law during the Civil War that, among other inequities, allowed a man to buy a replacement for himself. The civil unrest that was caused by the Vietnam draft also was very reminiscent of the draft riots of the Civil War.

My experience with the draft was a far cry from that of my father. Dad volunteered for the Navy when the Army was slow to draft him. To this day he is proud of the fact that he was the only person in the Class of 1942 of the University of Kansas City to graduate in uniform.

I had a student deferment (2S) studying as an undergraduate at Indiana University. After graduation, I entered law school and was reclassified 1A for the draft and was subject to immediate call-up until my draft lottery number was passed over in 1972.

Volunteer? My first-year law school class had many decorated Vietnam veterans and *not one* suggested that I volunteer for the service. All discussion of service options took place with my father in the basement of our home because my mother banished such conversations from her presence. During one such conversation, my father told me that he had served for three years in the Pacific during World War II so I wouldn't have to. I still remember how impressed I was by Dad's unusual eloquence. No, I did not volunteer.

But others did volunteer. Some avoided the draft and went to Canada. Some accepted prison terms instead of military service. Others---like former Vice President Dan Quayle---opted for service in the National Guard which all but guaranteed that you would not be sent to Vietnam but could serve honorably nonetheless. Bill Clinton---like tens of thousands of others---sought all legal means to avoid the draft. And each had the right to do just that.

The decisions each young man made during those turbulent times affected his life forever. I do not want anyone to judge my decisions and I certainly do not want to judge the decisions of others, *particularly after a quarter of a century.*

Is lack of military experience critical to President Clition's ability to function as Commander in Chief? I think not. Woodrow Wilson and Franklin D. Roosevelt lead our country through two world wars without the benefit of hands-on military experience. Several of the presidents who served at the end of the nineteenth century became generals during the Civil War as much through political influence as through military skill.

What is the relationship between the command experience of a Navy lieutenant or an Army captain and a Commander in Chief of the Armed Forces, particularly when the active service takes place decades before the individual is elected President? Maybe I missed something, but Kennedy, Johnson, Nixon, Ford, Reagan and Bush---all of whom were junior officers during World War II---left decidedly mixed records in the military arena.

Prior to assuming the presidency, only Dwight Eisenhower commanded force comparable to all of the armed forces.

Would those who say prior military experience is essential to the position exclude women who have not done military service from the presidency? What about all the men who have come of age since the end of the draft? Should they be excluded from the presidency? To date, men who have been elected to the presidency (except for Lincoln) served as officers. Do enlisted personnel or noncommissioned officers qualify or is a commission necessary?

Some political pundits and members of the media and the military (in an

interesting alliance) say that President Clinton's active efforts to avoid military service puts him in a position where he must earn the loyalty of the armed forces. *Wrong*! In a democracy, the people and not the armed forces who determine who shall be President. The President is owed the obedience and loyalty of every person in the armed forces because that obedience and loyalty flows to the office and not the occupant of the office.

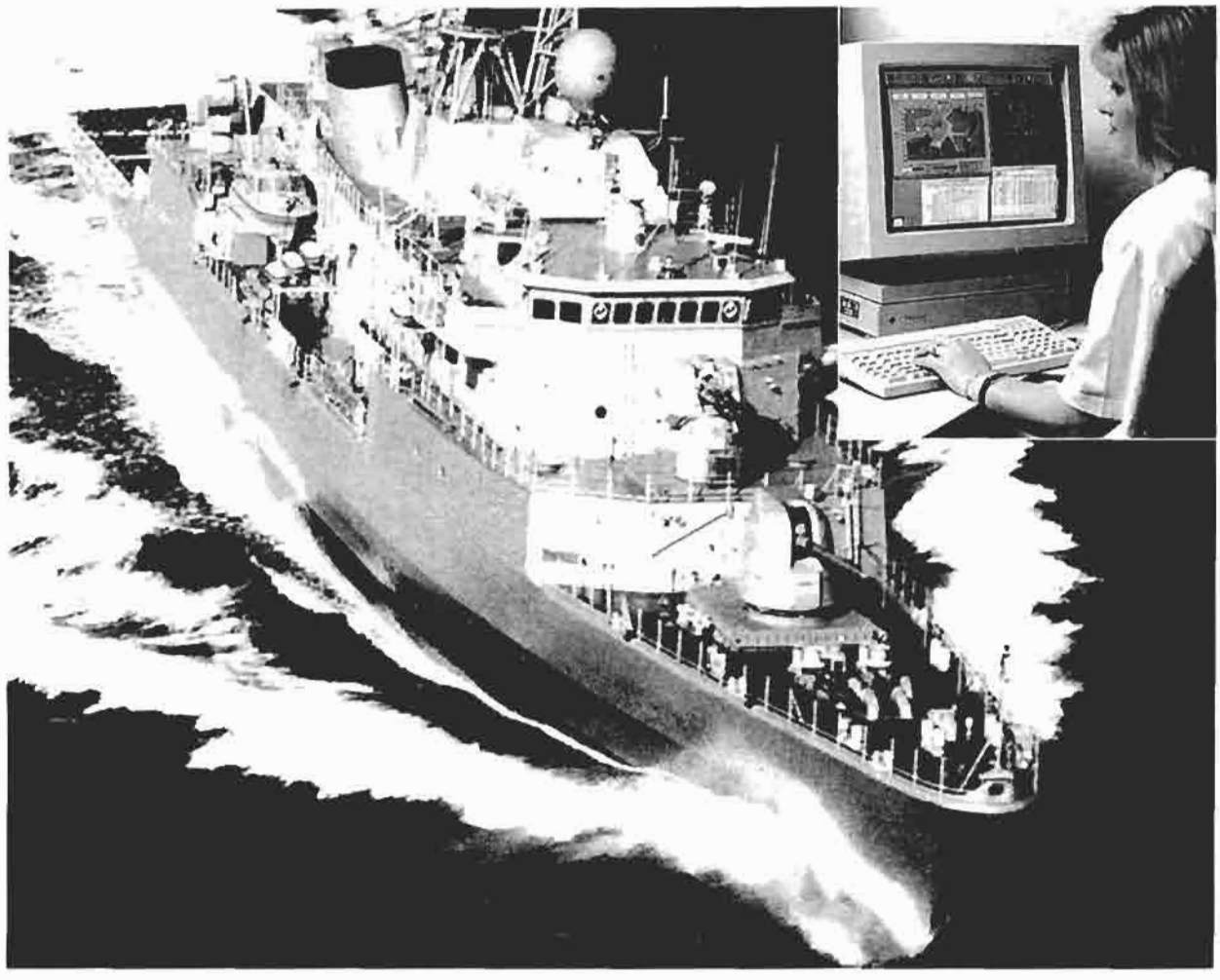
No senior executive in any private company in America would have survived the comments General Campbell made. The best thing that can be said of the Campbell case is that it may galvanize the most senior levels of the services to crack down on insubordinate rumblings about the President. It is outrageous that any senior officer would think of referring to the President as "gay loving," "draft dodger," "pot smoking," and "womanizing" in public let alone in a speech in a foreign country.

What was General Campbell thinking about when he made his remarks about the President? By "gay loving" did he mean men like Marine Colonel Fred Peck, who recently told a crowded Senate hearing room that his son was gay? Is Colonel Peck less of a Marine because he loves his gay son?

Change "pot smoking" to "alcoholic" and you can include General of the Army Ulysses S. Grant, savior of the Union; General Jonathan M. Wainwright, Medal of Honor winner and hero of Corregidor; Admiral Richmond Kelly Turner, the brilliant amphibious commander; and Fleet Admiral Ernest J. King, Chief of Naval Operations and Commander in Chief, US Fleet during World War II. To the latter you can add the epithet "womanizer' which also fits General George S. Patton of Third Army fame and Major General Richard Sutherland, chief of staff to General of the Army Douglas MacArthur. But who's keeping track.

It is time to put Vietnam behind us! I am not saying to forget the past, merely to stop fighting over it. And the time has come for the armed forces to realize that just because a person did not perform military service does ***not*** mean that they can neither understand the military environment nor support the armed forces. But in any event, once the people have spoken, the armed forces must fulfill their obligation to take orders from their civilian chiefs and perform them, in silence, to the best of their abilities. And those of us who have served---or not served but know the military well---know they will do just that.

A major partner in the rebirth of Australian shipbuilding



Australia's shipbuilding industry owes its resurgence to a wide range of partnerships forged between major Australian companies.

CSA, Australia's leading systems and software house, is the high technology partner, bringing a depth of experience and skills in test and training centres, simulators and combat systems.

Over the last 20 years, CSA has worked hand in hand with the principal players in the defence industry and is a partner in the multi-billion dollar shipbuilding projects for the Royal Australian Navy's new Collins Class Submarines and ANZAC Ships.

This rebirth of a vital industry will bring additional benefits to Australia and companies in the partnerships, as they turn their attention to the international marketplace.

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AUSTRALIAN NAVAL DIPLOMACY

Lieutenant Commander M.A. Harling, RAN

ANI SILVER MEDAL ESSAY FOR RANSC 29/92

INTRODUCTION

Naval diplomacy in the Australian context has not been the subject of any deliberate or coherent discussion. This is surprising given Australia's long history of using naval presence as an instrument of influence. In my view, greater attention to the subject of naval diplomacy is warranted because Australia's defence strategy and foreign policy objectives in the 1990's have accorded naval diplomacy a significant role.

The purpose of this paper is to assess Australia's historical use of naval diplomacy in support of foreign policy objectives. To achieve this purpose two subject areas will be addressed:

Security Within the Asia Pacific Region. This section will outline Australia's defence strategy and foreign policy objectives. It will suggest that the objectives require the use of naval diplomacy for effective implementation.

Naval Diplomacy in Australia - Historical Evidence. This section will determine whether Australia has demonstrated an historical willingness and ability to use naval diplomacy in support of foreign policy objectives.

The concluding remarks will be based on the historical evidence provided. They will assess whether the expectations of Australia's current defence strategy and foreign policies can be realised through the use of naval diplomacy.

The main body of this paper will provide historical evidence to suggest that Australia has used naval diplomacy in support of foreign policy objectives. Australia's use of naval diplomacy from the founding of the Australian settlement to the present day will be examined. The adoption of this approach reflects no more than the fact that the first subject area, Australia's regional security, has received considerable individual attention elsewhere.[1]

Quite deliberately this essay only examines naval diplomacy conducted during peacetime. Before commencing the discussion, the terms naval diplomacy and region require clarification.

Naval Diplomacy. To gain a comprehensive understanding of the form and complexities of 'naval diplomacy' Cable's, *Gunboat Diplomacy - 1919-1979,* and Booth's, *Navies and Foreign Policy* are required reading.[2] For my purpose, I take naval diplomacy to mean the use of warships to exert influence. In this context naval diplomacy is often descried as 'being there', 'showing the flag', or merely 'presence'. Warships, with their inherent attributes of mobility, flexibility, controllability and visibility are highly capable instruments for demonstrating national will.[3] In their diplomatic role warships act as a symbol of sovereignty, a backdrop for diplomacy, a signal of commitment or, as the deliverer of limited force.

An assumption of this paper is that the Royal Australian Navy's (RAN) force structure is appropriate for conducting the naval diplomacy tasks suggested in Government strategy and policy.[4]

Region. The term region is taken to mean Australia's 'area of primary strategic interest' as described in the Defence White Paper, *Defence of Australia* 1987.[5]

SECURITY IN THE ASIA PACIFIC REGION

There are two significant and related reasons why Australia in the 1990s and beyond will require the use of its navy in the diplomatic role. The first concerns recent changes on the global security stage. These changes have forced most Asia Pacific nations to consider their own security far more seriously than in the past. There are now a significant number of issues that have the potential to cause regional

conflict. The second, is that Australia has recognised this changed security environment and has accordingly adopted a very deliberate regional approach to both its defence strategy and foreign policy.

Global Changes and their Security Implications

The end of the Cold War, a contraction of both Soviet and United States naval power in the area, the emergence of pro-democracy movements in China and Burma and the rise of Melanesian nationalism are indicative of the many uncertainties facing the Asia Pacific region.[6] In the past the region has been characterised by its relative stability but also by the domination of outside influence. The relative importance of the US and Russia, and their ability to directly influence regional events has already declined.

As a by-product of these changes, together with the increased maritime capabilities of the Chinese, Indian and Japanese there has been a shift in strategic attention of regional countries towards maritime security.[7] This view is supported by the increase in maritime capabilities and force structure of most countries in the region.[8] What makes this situation of increased military development serious for Australia is that the South East Asian region is sustaining high rates of economic growth. Australia's regional neighbours are therefore in a prime position to capitalise on defence equipment and high technology procurement.

It follows that these changes in regional outlook and capability have produced potential causes of maritime conflict in the region. The maritime issues over which conflict may arise are generally agreed to include; claims on, and protection of, offshore resources, the settlement of fishing right disputes, control of illegal immigration, piracy, law of the sea and transit rights, the protection of sea lines of communication (SLOC) and the protection of shipping.[9] Only through proper management of appropriate national policies will these issues be decided favourably for Australia.

A Regional Security Strategy For Australia

Australia's current defence strategy is based on the 1987 Defence White Paper. The central theme of the White Paper is the adoption of a self reliant defence posture set within the framework of Australia's regional and international alliances and agreements. Australia's current foreign policy is outlined in Foreign Affairs Minister, Senator Gareth Evans' definitive 1989 statement entitled, *Australia's Regional Security*.[10] The statement identified four main priorities. The most significant priority was identified as, 'protecting Australia's security through the maintenance of a positive security and strategic environment in our region'.[11] Both the defence and foreign policy statements are consistent in the focus and emphasis they accord regional security as a strategy for Australia.

Identifying With the Region. Australia has always had a regional approach to its security. This approach until the 1980s however, was based on alliances with Britain and the United States. Senator Evans' Ministerial Statement on *Australia's Regional Security* attempts to leave behind Australia's colonialist dependent and isolationist image. The statement is formal recognition that Australia's future depends on the region if it is to prosper. At the same time it recognises that Australia must work hard if it is to achieve any real influence in the region. The thrust of the new policy is an attempt to recognise the importance of every nation in South East Asia and the Western Pacific and to act with due sensitivity in our dealings with them. It calls for Australia to identify with the region while promoting the idea of community.

Integration and Commitment. In response to formal Government policies Australia has commenced the challenge of regional integration. Australia's economic and security interests are already heavily committed to the region. Initiatives such as Australia's commitment to the

Asia-Pacific Economic Co-operation forum involvement in multilateral trade negotiations, a positive attitude to maintaining the Five Power Defence Arrangements and the Cambodia settlement initiative are all deliberate attempts at showing a commitment to the region.

Australia's financial and defence investment in the region is developing a relationship and commitment which extends an Australian obligation to our regional neighbours. This produces expectations of Australia from which a degree of credibility and influence in derived. Australia must foster and supplement these initiatives if the country is to flourish. The use of naval diplomacy in the form f official visits and exercises, I suggest, will be vital to encouraging better regional relationships. Certainly any indifference to the region or reduction in its investment will, as Barclay states, have severe consequences for Australia:

> 'It [Australia} cannot repudiate these or default on them if it wishes to be taken seriously by the international community, or more precisely, if it does not want other states to believe that they can disregard Australian interests with impurity.'[12]

Defence Involvement. From a defence perspective, Australia's new regionalism is one of full partnership. Australia has abandoned equipment and substitutionary forces based assistance in favour of co-operative programmes. This new approach is reflected in the current programme of activities conducted by Australia under the Defence Co-operation Programme (DCP).[13] Other cooperation takes the form of joint exercises, joint projects, naval advisory and consultancy assistance, training, combined exercises, personnel exchanges, hydrographic surveying and oceanographic support, channel clearance, maritime surveillance, naval facilities construction, civil assistance and ship visits and deployments. The latter is the area of recent great expansion and the major form of Australia's contribution to regional stability.[14]

Promoting Regional Security Through Naval Diplomacy.

The practical methods by which Australia as a nation can promote its regional security interests are many and varied. Without doubt however, the process will involve the Australian Defence Force (ADF) to a significant degree. Some processes are already in place. They are described by Senator Evans as the Australian Defence Forces (ADF) 'military-politico' capability and include; defence training, military assistance, bilateral exercises, visits and exchanges of personnel. In Senator Evans' view this military-politico capability, or military diplomacy, '....provides the foundation for [Australia's] capacity to contribute to a positive security environment....' The public document, *Australia's Strategic Planning in the 1990s (ASP90)* goes one step further. *ASP90* suggests that through its activities the ADF can, '....positively inhibit conflict from arising.'[15]

These statements promoting the ADF's peacetime diplomacy role in the name of regionalism are not new. The 1987 White Paper, for example, identified that one of the primary methods of promoting regional stability was through the use of naval diplomacy.[16] What has not been stated or established in any coherent fashion is whether the Australian government, through the RAN, is able to conduct effective naval diplomacy.

AUSTRALIAN NAVAL DIPLOMACY

Having the force composition and political opportunity to conduct naval diplomacy is one thing, having experience and a demonstrated ability to use it effectively is quite another. Published naval history in this country records very little of the Australian use of naval power as an instrument of foreign policy. It is my intention therefore to analyse Australia's use of naval diplomacy since settlement.

Australian Settlement - The Royal Navy and Colonial Ships

From the founding of the Australian

settlement the concept of influence or presence has been practiced, either by design or by default, to further Australia's interests. Royal Navy ships on the Australia Station attempted to provide a presence that manifested Britain's resolve to maintain the colonies' sovereignty. Although the ships did not actively deploy to engage the French, Italian or Russian ships, which at various times, made forays into Australian waters with imperial aspirations, the fact of them simply 'being there' was a sufficient show of British resolve to prevent international confrontation.[17]

Presence was also an important concept for the colonial navies. From the 1860's the colonists were very keen to show the Imperial government that Australia was prepared to play its part in Imperial defence. In this sense the colonial ships were used as a diplomatic tool.[18] They wanted to highlight that Australia was ' coming of age'; that it was preparing itself for nationhood, something that would be strongly defended when granted.

An Early Diplomatic Role for the RAN

Not long after the RAN was established in 1911, the practice of using the presence of RAN warships to represent Australian national interests was employed. This was clearly evident at the close of World War I when the battle cruiser, HMAS *Australia*, was accorded the honour of leading the port column of the surrendered German Navy to Scapa Flow.[19] This was a reflection of Australian participation in the war and acknowledgment by the British that Australia should have a role in the post-war reconstruction. The political expression was even more evident when HMAS *Swan* rendered assistance to White Russian forces in the Sea of Azov in 1919.[20] This was one of Australia's first anti-Soviet policies and an indicator that it was prepared to participate in international affairs. In the years following the Great War, the Navy was used, when fuel was available, to influence events in the region. This was conducted primarily to Australian League of Nations protectorates, possessions of European nations in the Pacific and most notably Japan.[21]

The Period to World War II

The programme of the Kent class heavy cruiser, HMAS *Canberra*, in the period 1931-38 is a good example of the diplomatic role played by Australian ships prior to World War II (WWII).[22] During its spring cruise of 1931, *Canberra* visited French Caledonia, Fiji, Norfolk Island, Lord Howe Island and Vila, which was then part of the Anglo-French New Hebrides. In the spring cruise of the following year, *Canberra* visited New Guinea (an Australian protectorate) and the Dutch East Indies.

The winter cruise of 1933 was the first visit in a series to New Zealand. The spring cruise of 1935 saw a visit to Port Moresby where *Canberra* returned in its summer cruise of 1936, also visiting Samaria (at the entrance to Mile bay), Rabaul and Noumea. During the winter cruise of 1937 *Canberra* visited new ports of call, Surabaya, Singapore, Bali, Buelelug. The winter cruise of 1938 saw *Canberra* visit Port Moresby, Samaria and the Dutch East Indies. However, the following deployment, the spring cruise of 1938, was cancelled because of the Munich crisis.[23] The ship had been programmed to visit New Guinea and the Solomon Islands.

The expressed intent in arranging these visits is clear. Australia attempted to exert its influence with friendly nations such as New Zealand, the British in Fiji and Singapore, the French in New Caledonia and the New Hebrides, and the Dutch in Batavia. There was also a strong desire to show Australia's resolve to guard its territories through the presence of a warship regularly calling at Norfolk Island, Lord Howe Island, Cocos Island and its primary League of Nations mandate, New Guinea.

It is very significant that after the 1931 Manchuria invasion, there were strong calls for the establishment of a Darwin naval base to protect Australia against invasion from the north. The first proposal for such a base was made

in 1923 which was not long after Japan emerged with greater naval strength from the Treaty of Versailles; granting it the Caroline, Marshall and Mariana Island chains, and from the Washington Disarmament Conference of 1922, which argued worked to its direct favour.[24]

At the same time, regular features of the Fleet programme were ship visits to Darwin which were part of regular naval circumnavigations of Australia. *Canberra*, for instance, transited the entire coastline at least twice every year between 1932 and 1937. The presence of such a powerful ship in these waters no doubt had some impact upon the minds of the Japanese and would have been enhanced by RAN ships deploying to ports that bordered the rim of the Japanese possessions from Formosa and Okinawa, to the Ratak chain in the Marshall Islands. This was a deliberate show of Australia's determination that it was not going to be intimidated or bullied.

Post World War II Naval Diplomacy

The pattern of Australian influence activities continued at the close of World War II when RAN ships were present at a number of surrender ceremonies, including the major ceremony in Tokyo Bay on 2 September 1945.[25] In view of the Australian Government's strong desire to have a say in the post-war fate of Japan and her former possessions, the role of the RAN was as symbolic as it was significant. This influence, although it ultimately resulted in very little real say in Japanese reconstruction, was doggedly asserted until 1949 with RAN ships remaining in Japan as part of the Occupation Force.[26]

In the post-war years, as part of the Australian policy aimed at 'containing' international communism in the Asia region, RAN ships were deployed to the Northern Pacific during the Korean War and afterwards during the United Nations Armistice Patrols in Korean waters until 1955. With the same objective in mind, the conservative parties were very keen to have the Chifley Labor Government send two cruisers to Malaya to bolster the Australian effort in the 'Emergency'. Labor decided against doing this however in 1956, when in power, the coalition deployed Australian warships as a representation of an expanded and upgraded Australian involvement.

Australia's foreign policy outlook from the late 1950s to the end of the 1960s concentrated on assistance to the emerging, fragile democracies of South East Asia. This was a driving force behind Australia's decision to contribute to the British Commonwealth Far East Strategic Reserve from 1955 until 1971 when it was succeeded by the ANZUK Force.[27] Our naval commitment to the Strategic Reserve was considerable in comparison to the Reserve's size, operations and membership consisted of the rotational deployment of at least one ship to Singapore (the Reserve's base) for a period of six months. This sustained our public interest in the South East Asian Treaty Organisation (SEATO), permitted bilateral and multi-lateral maritime training exercises, and was a constant reminder of Australia's interest in the stability of the region and commitment to the ultimate development of autonomous naval forces by SEATO nations.[28]

However, the practice of naval diplomacy began to decline with the end to Australia's involvement in the Vietnam Conflict, a net reduction in overseas ship visits from 1971 and the end of Australia's participation in the Strategic Reserve. As the Navy was withdrawn from South East Asia it followed that it was less useful as a vehicle for foreign policy implementation.

But this account is not meant to imply that Australia was always an effective practitioner of influence or that every opportunity has been taken to further Australian interests with a display of Australian naval power. Let us know look at the period of the 1970s through to the 1990s and assess some specific studies.

French Nuclear Tests - Mururoa

On 10 July 1973, HMAS *Supply* arrived off Mururoa Atoll to protest against French atmospheric testing.[29] In Frame's view the role of the Navy in the protest was significant and he suggests it has some claim to the fact that French atmospheric nuclear tests in Mururoa ended shortly afterwards.[30]

Officially regarded as a 'naval exercise', *Supply* operated in the vicinity of Mururoa, but outside the fallout area, for almost a month until 5 August 1973. *Supply* operated with, and in support of, New Zealand's warship HMNZS *Canterbury*. During the deployment, which had a tremendous worldwide impact, *Supply* operated inside the illegally declared 72 mile security zone and on a number of occasions was overflown by French military aircraft.

The presence of *Supply*, although not a major surface combatant, served to indicate that Australia was serious about opposing French atomic testing. More significantly, it declared the Government's willingness to use a ship in a military declaration of its resolve. In this regard the Government displayed its confidence in the Navy as an effective diplomatic tool.

Unlike the private peace flotilla, the ANZAC naval presence did not attempt any incursion into the nuclear testing zone. Neither did it stop the French from detonating five nuclear devices in the duration of the deployment. What the mission did achieve however, was to internationalise the dispute and assisted in causing widespread condemnation of the French activities. It may have also contributed to the French move soon afterwards to conduct its testing underground - a less efficient and more costly option.

Frame confidently declares that the use of the Navy at Mururoa was as 'politically acceptable', as it was 'diplomatically viable':

> *Supply* was seen as a peace ship carrying Australia's flag, bearing her concerns, and demonstrating the nation's resolve to play a part in regional affairs as the leading nation in the South Pacific. The RAN tanker 'was' Australia; any action against that ship was also an action against Australia.'[31]

Indonesia - Rights of Passage

One of the most prominent maritime issues in our region concerns developments in and interpretations of the Law of the Sea. Instances where it is violated cause considerable tension. The instances when Indonesia, for example, in violation of International Law of the Sea Conventions has effectively closed both the Lombok and Sunda Straits have caused considerable tension between the Australian and Indonesian governments.[32] Australia's response to the Indonesian closures represents the biggest failure by Australia to use its navy to press its international rights of free passage.

Closure of the Indonesian Straits has occurred on a number of occasions in the last few decades. The most publicised occasion, and the most hostile, was in 1964-5 during the *Confrontation*. At that time Indonesia conducted military exercises in the Sunda Strait and practically precluded the passage of the Straits to all sea traffic. The most recent occasion occurred when Indonesia closed both Straits for three days in September 1988.

1964 Confrontation. The Straits have been the cause of concern since the early 1950s when Indonesia expressed concern about the movements of British and Australian warships near Indonesian territory.[33] The Straits became a matter of dispute in 1964 when Indonesia claimed excessive authority over them. At that time the RAN operated largely in the shadow of the Royal Navy (RN) and it was therefore appropriate for Australia to make her stand through the auspices of the RN. This occurred when Britain decided that a direct challenge to Indonesia's claims was warranted in August 1964. On this occasion a task force including the carrier, HMS *Victorious* passed north through the more remote Lombok Strait rather than the Sunda Strait because the latter was

being used by the Indonesian navy for exercises. Whether a naval war would have resulted had *Victorious* passed through the Sunda Strait is a matter for conjecture. It is worth noting that RAN ships did not at any time pass through either Strait during the *Confrontation* period.[34]

1988 Live Firing. In 1988 calls were made by politicians for the dispatch of a 'gunboat' to the area when Indonesia, through the 'Notice to Mariners' warned that naval exercises would take place in both the Sunda and Lombok Straits and that on September 14, 15 and 17 the Straits would be closed for *live firings*. The announcement of the closure occurred when most of the visiting warships for Australia's Bicentennial Salute had already arrived in Australia. This precluded them from forcing their nation's rights of passage. The Australian response noted from the importance of the archipelagic waterways to Australia's trade and issued a firm protest to the Indonesian Government. The Australian Government stressed that the Straits were international waterways and could not be closed under the Law of the Sea which Indonesia itself had ratified.

Because the strategic reasons for the closure are still not really understood, the issue remains contentious. Australia, as a matter of principle, must press for its international rights. As a maritime nation this issue is serious, especially if left open and unresolved. It signals that Indonesia is willing to contravene International Law and that it is prepared to disrupt commercial shipping. Indeed, if the reasons for Indonesia's actions are more to do with its internal politics, as some have suggested, then the implications for Australia of the end of President Suharto's rule are significant.[35]

Fiji 1987 & Vanuatu 1988

The Fijian crisis of 1987 also holds significant lessons for Australia's role in the region. Although military intervention to reverse the Rabuka coup in Fiji on 14 May 1987 did not occur, Australia's diplomatic activity and military manoeuvring was significant.[36]

The Australian Government's response to the crisis, *Operation Morris Dance*, has been described as cautious.[37] In the main, the Government deployed its defence assets off the Fijian coast to provide for the safety of an estimated 4,000 Australian nationals. The RAN involvement centred around HMAS *Tobruk* and HMAS *Success*. Due, however, to the coincidental presence of HMA Ships *Sydney, Parramatta, Stalwart* and the patrol boats *Wollongong* and *Cessnock*, greater than usual assets were in the area at the time. In the end the RAN was not required for evacuation purposes or in any direct military action.

As this was the first overseas deployment[38] since the sending of the first contingent to Vietnam in 1965 there were many direct military and diplomacy lessons to be learnt.[39] From a regional security perspective however, the Fijian crisis of 1987 and the disturbances which followed in Vanuatu in 1988 are highly significant. They serve to demonstrate just how quickly and unpredictably disputes within the region can manifest themselves in armed conflict. They should also serve Australia's foreign policy and defence security planners with invaluable experience in conducting future relations with our South Pacific neighbours.

CONCLUSION

Since its formation the RAN has operated in a number of theatres, from the Sea of Azov in 1919 to the Persian Gulf in 1991, and been required to achieve a variety of tasks. On many occasions the tasks set have had a diplomatic flavour and a clear foreign policy objective behind them.

This essay has established that Australia's defence strategy and foreign policy objectives are aimed at securing our future within the Asia Pacific region. The influences of Pax Britannia, pax America and even Cold War have all faded away during this century. They have been replaced by an unknown, juvenile security environment. Australia's strategic guidance, in the

form of *DOA 87* and Senator Evan's 1989 regional security statement, is clear. Integrate with the region, invest and commit resources.

According to strategic guidance, one method by which security should be courted within the region is through the use of the military-politico capability of the ADF. Naval diplomacy, it is suggested, will have a significant role to play in achieving the goal of integration. The Government is encouraging an increase in port visits, joint naval exercises and other forms of maritime defence co-operation. The strategic guidance being encouraged is clear. Naval presence will be used to show a commitment to Australia's regional neighbours. The RAN will be used to further the feeling of community and maritime security.

Does Australia have the naval pedigree to implement such a strategy? The historical evidence examined within this essay suggests that Australia has always shown a willingness to use its navy in support of foreign policy objectives. From the colonial ships after Australian settlement, through to the commencement of the Gulf War in 1991, naval presence has been an effective diplomatic tool. Whether it be an anti-Soviet message or a Greenpeace message, the RAN has displayed the ability to *show the flag* with good effect.

Current expectations for Australia's successful integration into the Asia/Pacific region rely, in good measure, upon the RAN in its diplomatic role. The historical evidence suggests that the RAN is able to realise these expectations.

LCDR Harling entered the RAN in 1979. He has served in Navy Office, at HMAS *Creswell* and recently two years on exchange posting at the Headquarters of the Royal Navy Supply and Transport Service in Bath, United Kingdom.

Notes

1. Fry G., *Australia's Regional Security*. Allen and Unwin, North Sydney, 1991.
2. Cable, J., *Gunboat Diplomacy 1919-1979*, (2nd ed), Macmillan, 1981; and, Booth, K., *Navies and Foreign Policy*, Holmes and Meier Inc., New York, 1979.
3. *Flexibility* - The multi-purpose nature of ships. The unique capability of being very quickly, but subtly, transformed from a venue for entertaining local dignitaries, to a haven for nationals in distress, to ultimately a platform for waging hostilities.
Controllability - Escalatory potential on one hand, withdrawability on the other.
Accessibility - Ease of movement and access to all types of maritime environments.
Visibility - With modern weapons warships are a highly visible symbol of a nation's commitment.
Sustainability - Warships are independent and can be operated for extended periods.
4. The basis of this assumption is that the Defence White Paper, *Defence of Australia 1987 (DOA 87)*, is predicated on the concept of 'defence in depth.' Defence in depth is a flexible doctrine requiring the RAN to have a mix of ships to perform a wide variety of tasks. The RAN is structured in order that it may conduct operations up to and including escalated low level conflict. It follows therefore that the naval presence mission, up to and including the 'show of force', lies within the RAN's capabilities.
5. *DOA 87*, generally takes in South East Asia, the South Pacific and the eastern reaches of the Indian Ocean.
6. While the end of the Cold War has removed a layer of antagonism from our region, there are continuing tensions and uncertainties as well as unresolved problems that cannot be ignored. These include the uncertain future of the peace process in Cambodia; concerns about China's growing military power, the dispute between regional countries over the Spratly and Paracel Islands; unresolved issues between Malaysia and the Philippines over Sabah; and domestic insurgences in several regional countries, most notably the Philippines, where the New people's Army and the Muslim Moro National liberation Front remain active. Further to the north, there are renewed tensions between North Korea and South Korea over the North's intention to acquire a nuclear capability. All these uncertainties could give rise to an arms race within the region that certainly would not be in our interests and that Australia must work hard to avoid. Woolcott, R., *Bulletin*, 20 April 1993.
7. See Babbage, R., & Bateman, S., *Maritime Change - Issues For Asia*, Allen & Unwin, St Leonards, 1993.
8. O'Connor, M.J., 'The Naval Capabilities and Strategies of Australia and ASEAN', *Asian Defence Journal* 12/87.
9. Babbage, opcit., and a lecture delivered to the RAN Staff College on 29 March 1993 by Commander R.J. Sherwood, RAN, 'Maritime Strategic Developments in the Asia/Pacific Region.'
10. The transcript appears in Fry, opcit.
11. ibid., p.169.
12. Barclay, G. St. J., 'New National Strategy Needed', *Pacific Defence Reporter*, August 1987, p.15.
13. The DCP is based around co-operation with eleven regional nations: Papua New Guinea

(PNG), Tonga, Western Samoa, Solomon Islands, Federated States of Micronesia, Cook Islands, Brunei, Singapore, Malaysia, Thailand and Indonesia. The Co-operation Programme has a heavy maritime character and is based on the provision of the Pacific Patrol Boat (PPB) to participating nations. Originally twelve of these craft were to be constructed with RAN advisers to support the operation of the vessels in their respective home ports around the Pacific Basin.

16. In 1987 there were 67 ship visits to South and South West Pacific ports; in 1988 92 visits were planned. South East Asia ports received 35 RAN ship visits in 1987; in 1988 45 were planned. This was a very rapid increase in Australia's regional involvement. Specific figures for the period 1990-May 1993 produced at Maritime Headquarters indicate the increase in ship visits experienced during the late 1980s has continued.

15. *Australia's Strategic Planning in the 1990s*, AGPS, Canberra, November 1989, p.22.

16. *DOA 87*, p.18.

17. Bastock, J., 'The Royal Navy in Australia' in Gillett, R., (ed), *Australia's Navy - Past, Present and Future*, Child & Henry Pty, Sydney, 1986, and McGuire, F.M., *The Royal Australian Navy - Its Origins, Development and Organisation*; Brow, Prior, Anderson Pty, Melbourne, 1948.

18. Their naval power had been anything but a significant factor in either the Maori wars or the Boxer Rebellion in which they participated. See Gillett, R., *Australia's Colonial Navies*, The Naval Historical Society of Australia, Garden Island, Sydney, 1986.

19. Jose, A.W., *The Official History of the Australia in the War of 1914-1918, Volume IX: The Royal Australian Navy*, University of Queensland Press, St Lucia, 1987.

20. ibid., p.329.

21. Although visits to the Home Islands by RAN ships were suspended after the Japanese invasion of Manchuria in 1931, see Millar, T.B., *Australia in Peace and War*, ANU Press, Canberra, 1978, pp.119-134.

22. The following details are drawn from; Payne, A., *HMAS CANBERRA*, The Naval Historical Society, Garden Island, Sydney, 1973, pp.1-19.

23. ibid., p.18.

24. Powell, A., *The Shadow's Edge: Australia's Northern War*, Melbourne University Press, Melbourne, 1988, p.36.

25. The formal surrender was signed on 2 September 1945 on the battleship USS *Missouri* in Tokyo Bay. The RAN was represented by CDRE J.A. Collins, CB, RAN and HMAS ships *Shropshire*, *Hobart*, *Warramunga*, *Napier*, *Nizam*, *Bataan*, *Ipswich*, *Cessnock* and *Ballarat*.

26. Frame, T.R., *Pacific Partners - A History of Australian American Relations*, Hodder & Stoughton, Sydney, 1992, pp.83-96.

27. Millar, opcit., PP.237-249.

28 *The Age*, 1 January 1987.

29. The initiative for the deployment was New Zealand's. Australia preferred a limited presence, more, it seems, to enhance its commitment to the issue which it was pursuing through the International Court. This was achieved by sending a tanker, not a major surface combatant - it also provided fuel support vital to HMNZS *Canterbury*'s role.

30. Frame, T.R., *The Canberra Times*, 5 August 1990, p.4.

31. ibid.

32 Closing the Straits is in contravention of Article 16[4] of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 38 of the 1982 UNCLOS Convention.

33. Millar, opcit., pp.224-236.

34. On returning from its first trip to South Vietnam transporting Australia troops and supplies, HMAS *Sydney* departed Vung Tau in South Vietnam and proceeded to Singapore through the South China Sea. And in spite of an aircraft carrier being an appropriately sized ship to force right of innocent passage and that its passage to Fremantle was most directly achieved through the Sunda Strait, *Sydney* left Singapore and steamed west up the Malacca Straits rounding the northern tip of Sumatra. This avoided passage through either Indonesian Strait but meant more than a thousand miles was added to the return passage.

35 Peter Hastings writing in the Sydney Morning Herald on 24 October 1988 suggested that it is the Indonesian Armed Forces (ABRI) who have been at the centre of the closures and not the Government. He suggests the actions related to uncertainties over President Suharto's successor in 1993. He further suggests that the ABRI '....may be signalling by means of a highly independent action that it does not accept Vice President Sudharmono as a possible successor'. One further suggestion as an explanation for the closures is that the ABRI do not recognise the Lombok and Sunda Straits as International waterways.

36. Australian intervention was ruled out, in large measures because it became clear early on that the coup enjoyed widespread support, tacit or otherwise, among ethnic Fijians. Australia did not wish to appear to be siding with the Indian population against the Fijians.

37. Gubb, M., 'The Australian Military Response to the Fiji Coup - An Assessment', *SDSC Working Paper No.171*, Canberra, 1988.

38. Other than for exercises, disaster relief and in support of the 1980 Papua New Guinea police action in Vanuatu.

39. Gubb, opcit., pp.12-17 and 27-29.

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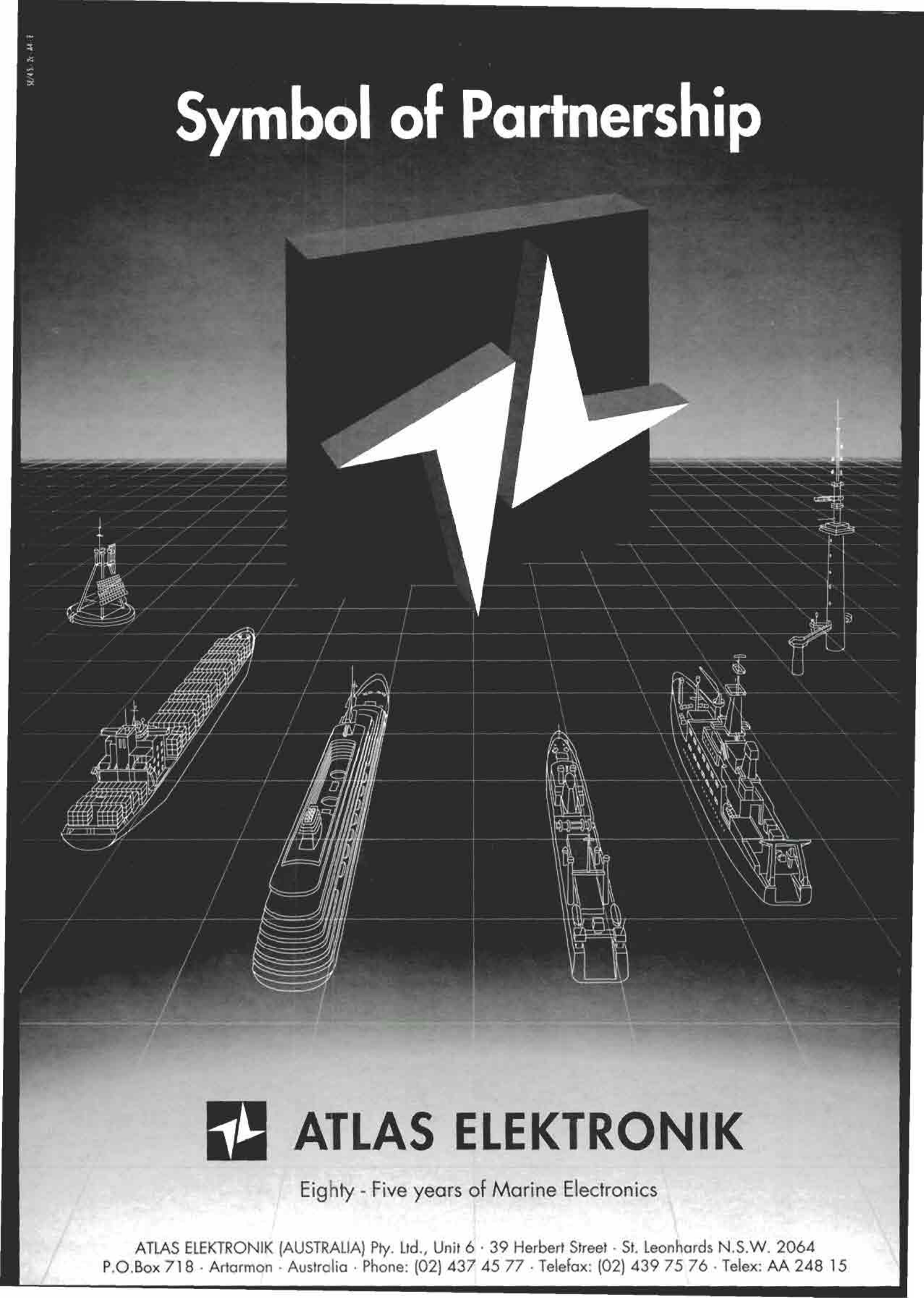
Symbol of Partnership



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DEVELOPMENTS IN MINEWARFARE AND MINE COUNTERMEASURES IN THE WESTERN PACIFIC

Lieutenant Commander Alan Hinge, RAN

'...A ghost is walking the corridors of defence departments all over the world - (that ghost is) the fear of military impotence, even irrelevance.'[1]

So says eminent historian and strategic analyst Martin Van Creveld in his controversial book, *The Transformation of War*, where he argues that small scale military eruptions around the globe have demonstrated new forms of warfare conducted by a different cast of characters - guerrillas, terrorists, pirates, tribes, religious sects and run of the mill, garden variety bandits - pursuing diverse goals with the most primitive *and* sophisticated means. He suggests that the tactics of low intensity conflict mark the beginning of the end for conventional warfare between states as we know it - that submarines, missiles, aircraft and towed arrays, will become increasingly irrelevant instruments of conflict and will simply rust away.

Van Creveld sometimes draws a long bow, but one thing is sure: The humble, not too glamorous, stodgy old seamine - that *cinderella* of our naval warfare arsenal - will remain in use throughout the whole conflict spectrum from terrorism to general war. Indeed, the seamine is and will remain important simply *because it is used.* After all, what turned out to be by far the main threat to Allied vessels during the Gulf War? The maritime threat came not from Saddam Hussein's exocets but from seamines. Hussein deployed 2,500 seamines, including 1300 laid in waterways. Along with ubiquitous Russian mines of varying sophistication there were quite sophisticated Italian MANTAs and MISARs upgraded with Russian help. Unconfirmed reports claim Iraq brought mines from Chile, which incorporated West German and South African technology. Similarly, in 1987 it was mines that posed the real threat to naval forces in the Middle East. The $96 million dollar damage bill for the FFG USS *Samuel B Roberts* testifies to this. It was one of five large vessels incurring major damage as a result of Iranian mines.[2] In 1984 mine-laying had become the new tactic of international terrorism, with modern mines laid in the Gulf of Suez and Central America.[3]

The aim of this paper is to look at recent operational and technological developments in the use of the seamine and its counter measures, and there implications for the Western Pacific. It firstly covers the increasing utility and threat of seamines generally, and relates this back to the region. Secondly, the paper looks at developments in mine counter measures and ways and means of countering the mine menace in the region.

THE INCREASING UTILITY AND THREAT OF MINES

The sea mine is an underwater explosive device that waits to sink or damage targets or deter them from entering an area. It should be remembered that the seamine has succeeded in its mission if the opponent refuses to challenge it. He has failed to bring hostile forces to bear at the time and place of his own choosing and so a measure of control over his ability to seize the initiative has been achieved. Control over the actions and deployment of an adversary at sea is the essential mission of the seamine. Importantly, the mine, as the weapon that waits, enables he who deploys it to avoid escalatory eyeball to eyeball confrontation. It is the only weapon that can be actually used without killing or injuring people or damaging property, and can be aimed at attacking people with shortages and loss of income rather than with bullets and missiles. Mines lie at the critical interface between military and political action, and this is the key to their utility in

modern and future warfare.

The mining of the Vietnamese harbors at Cam Pha, Haiphong and Hon Gai in 1972 marked the turn around of mine deployments being considered highly escalatory acts almost by definition, to acts which, if implemented cleverly, could be pitched at the minimum level of violence. Operations against the North Vietnamese also revealed to all countries in the region the absolute helplessness of a country with no MCM capability to speak of. Twenty seven ships were trapped in harbour for 300 days, costing the Soviets $US146,000,000 or almost one billion dollars in today's figures. It only took 75 MK52 bottom mines to seal Haiphong's main channel.[4]

TECHNICAL DEVELOPMENTS

Mine effectiveness depends largely on the ability of mine sensors to detect 'signatures' and localise the right target. Research into several signature types has been conducted and these signatures include distortions in the local magnetic field, change in cosmic ray and white light transmission to the seabed due to the opacity of a ship's hull and also the redistribution of sea mass per unit volume and variation of fluid velocity flow around a ship. However, the most promising and reliable new method of target localisation is using the ELPHI signature. ELPHI stands for Electric Potential Field and this signature derives from a number of causes; a major one being the modulated *magnetic field derived from a simple* battery circuit formed between the steel hull and bronze propellers of a vessel. These dissimilar metals are linked by the sea-water electrolyte of very high and stable conductivity and the propeller shaft bearings which complete the circuit. The contact resistance of the shaft bearings varies due to a number of factors including shaft revolutions and bearing lubrication state. Varying resistance causes an alternating current flow in the circuit. This current has a correspondingly alternating or modulated magnetic field associated with it. The modulated magnetic field can be detected and usefully employed as a signature. This can lead to the mine sensing a vessel directly above at practically any depth. ELPHI is of increasing importance because getting a reliable pressure sensor to operate below a depth 60 meters has proven to be well nigh impossible.[5]

Despite advances with more exotic signatures, magnetic, acoustic and pressure signatures will continue to be the mainstays of target detection and localisation in mine warfare for some time, with considerable effort currently being put into improving acoustic detection and classification of targets. Researchers are aiming for enhanced target selectivity using acoustic 'finger printing' techniques, in which the target's acoustic signature is compared with a microprocessor stored pattern. The acoustic signature derives from shipboard sources such as generators, pumps, hull vibrations and propeller motions. Items of equipment often have their own often unique and stable frequencies of operation which constitute spectral lines in the overall Acoustic Signature Spectrum (ASS) of the vessel. Such acoustic 'finger-prints' can be surreptitiously recorded during peacetime for various ships and submarine classes. By planting special recording devices on the ocean floor and recovering the information, data can be filed into the microprocessor based target signature library of a combat mine's memory.

Two areas of keen interest in mine design involve the development of 'Sleeper mines' and 'Self Buying Anti Hunter Mines'. 'Sleeper Mines' can be laid in peacetime and maintain station for years. They are designed to be virtually undetectable using sonar absorbent coatings and irregular shape. They are safe until armed on command by coded sonar signals and can be remotely instructed, interrogated and detonated. 'Self Burying Anti Hunter Mines' are designed to hide on deployment and kill MCM vessels (MCMV's) by locking on to minehunter sonar signatures. Some of these mines are of the bottom mounted variety and

can use torpedoes are rockets to increase radius of action to at least one nautical mile.

However, two things should be remembered when using of fighting sophisticated mine types. First, buying a sophisticated mine is one thing but programming it and collecting your local environmental and target data and then putting the information in useful form in the mine is quite another thing. In fact, it can be an especially tricky task. Second, if the mine becomes too discriminatory and highly 'tuned', it may never detonate at all!

UTILITY OF THE SEAMINE IN THE WESTERN PACIFIC

It would be hard to get a better general area to lay mines than in the Western Pacific. In fact, the nations of the Western Pacific are acutely vulnerable. Waters are shallow and confined with lots of heavily trafficked straits and seas, many of which form especially good choke points. For example, on any given day an average of 350 large vessels will be in transit through the South China Sea after coming from a variety of narrow approaches.

Submarine mine-laying in these waters can be especially effective. During World War II the most effective operations in history occurred in the South East Asia with a record 1 ship hit per 8 submarine laid mines. Aerial mine-laying also proved extremely successful. All in all, US cost per ton enemy casualty was 13 times more cost effective when using mines than compared with torpedoes.[6]

WHY USE MINES IN THE WESTERN PACIFIC?

Besides traditional tactical and strategic uses there are many other potential applications for mines in the Western Pacific. The export oriented market economies of the Western Pacific have and extraordinary dependence on trade and input of raw materials. Delays in transit, not to mention damage and sinkings due to mines, can be very costly. Holding up cargoes and interrupting important supplies dislocates a rival's industry to a measurable extent, since industry relies on the steady flow of materials. Every ship delayed represents a net cargo loss because, at the conclusion of the crisis, you have a negative balance of ship days that often cannot be made up. Charter cost of $50-100,000 per day cannot be made up easily either. Other costs associated with the mine threat include increases in marine insurance rates, refusal of crews to sail and even withdrawal of neutral tonnage from trade with a nation whose main ports are effectively mined.

Regulation of EEZs is also a big issue and it is getting bigger. Perhaps we may encounter mines used as 'robot policemen' in selected areas. Territorial claims in the South China Sea for example could be reinforced with declared protective fields to reinforce sovereignty claims. This could avoid escalatory eye ball to eye ball confrontation and may not be as far fetched as one might first think. Remember the sinking of three Vietnamese patrol boats in the late 1980's by Chinese forces? Sixty Vietnamese sailors are said to have died in a very one sided affair. Similarly, with sovereignty claims of archipelagic states, the right to lay protective minefields could be claimed and practiced as a tangible exercise of sovereign power.

In addition, rogue groups comprising pirates, terrorists, dissidents and even international criminals and drug traffickers potentially have access to a wide variety of sophisticated mines. Seamines could be used for economic or political blackmail, extortion, diversion, ambush and destruction.

COUNTERING MINES IN THE WESTERN PACIFIC

The seamine is of course difficult to target. The real rub is that unlike an aircraft, ship, missile or submarine, the bottom mine actually becomes part of its environment on the ocean floor. It makes no emissions and has no velocity. You have to either work out some way of detonating it when you are not around, or look for it, pin-point it

and counter mine it.

There was a conspicuous absence of significant MCM forces in the region until the 1980's. Most countries in the Western Pacific now have modest MCM capabilities built around a handful of fairly capable minehunters. Some, like Japan and China, have relatively large and diversified MCM capabilities. Very importantly most are getting 'hands on' experience with the operation of Remotely Operated Vehicles (ROVs) and the use of detection and classification sonars.

Two navies in the region, Australia and probably Thailand, are moving to the next generation minehunting sonar system, the Krupp Atlas DSQS 11M, which is capable of detecting and classifying simultaneously. The system seems very effective and this development is vital in conducting rapid mine reconnaissance and in adapting to associated technologies which are important for a very effective counter measure known as route survey, which will be described shortly.

Mine-Sweeping

Most nations of the Western Pacific are showing some signs of getting into an almost exclusively minehunting focus. This is understandable given the availability of influence resistant sophisticated mines. Nevertheless, while minehunting is and will remain the backbone of any countermeasures force, mine sweeping should not be relegated too far into the background and should not be neglected for several reasons. Tonne for tonne, minehunters are the most expensive type of warship afloat and take a very long time to do their job. A shifty opponent will likely use the most cost effective fields. These are 'mixed bag' fields comprising many relatively simple influence and sometimes contact types, with a sprinkling of more sophisticated anti hunter and other specialty mine types. Good influence and mechanical sweeping will probably get rid of a significant proportion of the mixed field before the time consuming and highly specialised minehunting job gets underway. Sweeping followed up by selective hunting could get the MCM job done much faster and less dangerously.

THE AUSTRALIAN MINE-SWEEPING AND SURVEILLANCE SYSTEM

The Australian Mine-Sweeping and Surveillance System or AMASS, is an integrated system which has been developed over the last decade.[1] Rather than trying to beat the mines logic, the AMASS tries to emulate a target ship and can assist in the rapid sweeping of large areas, choke points and channels. It offers a means of extending the effectiveness of minehunting and was developed for use by Craft of Opportunity or civilian vessels which, with minimum adaptation, can be used in several MCM tasks. The AMASS combines four important features: a route surveillance system and a precursor influence sweep, together with new influence and mechanical sweeps.

The Route Surveillance system aims at creating a history of seabed data on selected routes by mapping the seabed and detecting recent changes to bottom topography. A precursor sweep then uses a remotely operated drone boat to counter coarsely set (sensitive) magnetic and/or acoustic mines.

The third feature of the sweeping process involves towing various combinations of magnetic/acoustic sweeps arrays to counter mines that target various kinds of ships. While improvements in acoustic effectiveness is desirable, the *magnetic sweeps are effective against* a wide range of magnetic setting combinations. The BVDs (Buoyant Vehicle Dyads) as they are known are very robust and highly manoeuvrable; being based on MOP (Magnetic Orange Pipe) technology developed in the US in the early 1970's and substantially improved by the Canadians in the late 1970's.

The fourth feature of the process involves the use of lightweight mechanical team and Oropesa sweeps to counter moored mines. These sweeps make use of superior, lightweight materials and are more hydrodynamically efficient than their cumbersome predecessors.

Some MCM points to bear in mind

Navies of the Western Pacific could put many more millions into MCM but get very limited return. The seamine, it seems, will probably have the upper hand unless large numbers of ships are available for the MCM task. Most MCM technologies and platforms are getting increasingly unaffordable. Consequently, we should look to ways of supplementing the effectiveness of standing MCM forces in the Western Pacific.

First, we should remember the old maxim that 'deterrence deters'. Mines are the best form of MCM in nation vs nation conflict.. Good mines can be easily acquired from a variety of European sources, and probably from a cash strapped Russia believed to still have from 100-150,000 useful mines in stock. Of course, there are always political and financial constraints in acquisition but the fact remains that if you have a demonstrable capability to inflict commensurate damage on your opponent with the same weapon type, this can affect calculations in your favour and obviate deployment.

Second, navies and even civilian shipping agencies should relearn and redrill basic MCM Self Defence Measures (SDMs). It should be remembered that the Commanding Officers of the *Princeton* and *Samuel B Roberts* came in for criticism over some of their decisions and manoeuvres in Middle Eastern minefields, which allegedly led to unnecessary damage. Basic Self Defence Measures can reduce the damage from mines substantially. These include maintaining maximum water tight integrity, sailing on high tide, maintaining constant speed and bearing, cleaning hulls, reducing self noise and cavitation, turning off all non essential equipments, transiting high risk areas at slow speed and regular damage control drills. Discipline with regard to self defence measures can have a major impact against the mine, as experiences in World War II clearly demonstrated. MCM standard operating procedures and damage control should continue to be taught and drilled in a serious and consistent manner.[8]

Third, Bottom Conditioning and extensive Route Survey operations conducted during peacetime offers two of the best ways of compromising the effectiveness of even the most sophisticated mines. Certain types of seabed assist mine reconnaissance and minehunting, such as seabeds where mines cannot become easily scoured or embedded, hidden amongst rocky outcrops or camouflaged.

Bottom Conditioning involves removing conspicuous bottom junk jettisoned by passing merchant ships to form a 'clearway', where changes to the bottom can be picked up quickly. *Route Survey*, as we have seen, - involves compiling a database on key routes. When a route is initially surveyed, seabed data is collected and this data is stored for comparison to find anomalies when minelaying is suspected. Quick mine reconnaissance then becomes practical and reduces the asset to task ratio of MCMVs markedly.[9]

Fourth, given the current and prospective shortage of dedicated MCMVs, Craft of Opportunity programs can be set up by identifying and listing many civil sector craft best suited for MCM employment. They can be largely manned on a part time basis by reservists and can act as auxiliary mine-sweepers or mine reconnaissance vessels using clip on systems, including sidescan sonars and a variety of influence sweeps.

Fifth, multilateral cooperation can give rise to synergies capable of seriously degrading the mine threat. Western Pacific nations have demonstrated a generally bilateral pattern of cooperation and tend to avoid multilateral entanglements, but this could and should change with regard to MCM. MCM operations in the Gulf War and the Red Sea clearly indicate the force multiplier effect derived from getting as many MCM assets on the job as possible. MCM forces in the region are small and will likely remain small. Their work is dangerous and painstakingly tedious. The prospect of area pooling of MCMV's has definite advantages and attractions for the future. After all, MCM is almost invariably a

purely defensive activity.

CONCLUSION

The mine is important because it is used. It is used by an increasingly wide cast of characters and is applicable through the whole conflict spectrum from terrorism to general war. The concept of using the mine as a 'robot policeman' in certain areas needs research, and its ability to keep 'barking dogs' away from each other by eliminating escalatory eyeball to eyeball confrontation could be a good thing for regional stability, if and when push comes to shove.

Modern mines demand increasingly sophisticated counter measures, training and information/data management techniques, and it will be extremely difficult for countries in the area to keep up with advances in mine technology. Little more than a near state of the art core capability of minehunters can be aimed for and maintained by most regional nations, so MCM augmentation and burden sharing measures should be adopted. These include improved minesweeping equipment, multilateral pooling of MCMVs, use of Craft of Opportunity, emphasis on route survey and bottom conditioning during peacetime and perhaps acquiring mines for deterrent purposes against other states.

We should also be prepared for a new danger where conventional MCM forces may increasingly come up against mines laid not by states but by rogue groups without a territorial base. The mine will, as usual, play its part and its 'psychological warhead' as *the weapon that waits* will be increasingly used. In such cases it is especially important to remind ourselves that war is ultimately a clash of wills - the technology used and operations employed are merely tools and manifestations of human will.

It is therefore necessary to remember that mines may increasingly be laid not by states but by men and women with particular purposes, motives and grievances not sanctioned by any state. We should find out what these purposes and motives are, and perhaps solve the problems in political ways if possible.

In the long run this may be the most effective mine countermeasure in the so called New World Order. For in concentrating entirely on technological solutions to the mine threat, our methods, to use Conrad's words, will have 'become unsound'.

LCDR Alan Hinge is a former editor of the ANI Journal who has written prolifically on naval and defence matters. This paper was prepared and delivered in May 1993 at the Seminar *Operational and Technological developments in Maritime Warfare: Implications for the Western Pacific.*

Notes

1. Martin Van Creveld, *The Transformation of War*, (Free Press, New York, 1991), p.1.
2. For an outline of the mining of the USS *Samuel B. Roberts* see Norman Friedmann, 'US Frigate Mined in the Gulf', *USNI Proceedings*, June 1988, p.119.
3. See Truver, S., 'The Mines of August: An International Who Dunnit', *Proceedings*, Naval Review Issue, 1985, p.109.
4. For a description of the mining of North Vietnam see, U. Luckow ' Victory over Ignorance and Fear: The US Mine-laying Attack on North Vietnam', *Naval War College Review*, Jan-Feb 1982, p.24. See also A. Patterson, 'Mining a Naval Strategy', *Naval War College Review*, May 1971 for an insight into the rethinking of the mine's role in modern conflict which took place in the early 1970s. Patterson was involved in the Project *Nimrod* studies 1968-70, (*Project Nimrod: The Present and Future Role of the Mine in Naval Warfare*, Naval Academy of Sciences, Washington, 1970.
5. See, G.K. Hartmann, *Weapons That Wait: Mine Warfare in the US Navy*, (US Naval Institute Press, Annapolis, 1979), pp.96-97, for a description of ELPHI.
6. R. Duncan, *America's Use of the Seamine*, (US Government Printing Office, Washington DC, 1962), p.135, also A. Patterson, p.62.
7. AMASS is marketed by Australian Defence Industries (ADI).
8. For a summary of SDMs see table 4-2 in A. Hinge, *Mine Warfare in Australia's First Line of Defence*, (SDSC, Canberra, 1992), p.104.
9. ibid, chapter 4.

DEVELOPMENTS IN REGIONAL ANTI-SUBMARINE WARFARE

Lieutenant Commander Graeme Dunk, RAN

This paper is about regional developments in anti-submarine warfare (ASW) and their impact on the naval balance. Open forum discussions on ASW inevitably suffer due to the classified nature of much of the subject. This paper, however, endeavours to provide information that, although not extensively covered in the open literature, could be described as being *common* knowledge. This should both satisfy the readers immediate requirements and trigger a curiousity in the combination of art and science that is ASW.

It is a cliche to say that the aim of ASW is to deny an adversary the effective use of his submarines. What is not so commonly stressed, however, is the word *effective* rather than *use* and this can be done through a variety of measures in addition to the *traditional* use of ASW forces at sea to detect, classify, localize and attack submarines. Other options can include offensive action to destroy submarines in their bases or to destroy critical supporting infrastructure, the use of submarines or offensive mining outside bases to destroy an opposition's boats on exist, or to deter him from putting to sea. ASW also includes supporting measures such as oceanographic research to fully understand and exploit the underwater *environment*, *indigenous research and* development (R&D) into ASW systems tailored for our own conditions, and intelligence collection to determine a potential adversary's submarine operating patterns, capabilities and acoustic signatures. These support activities are necessary to ensure that ASW assets can be utilized most effectively when required. Anti-submarine activities may also be undertaken by national agencies other than Defence, for example diplomatic efforts designed to dissuade regional countries from acquiring or enhancing a submarine capability.

Leaving thatr aside this paper will focus on the more traditional ASW measures. The use of submarines in ASW will not be addressed. Although titled *Developments in Regional Anti-Submarine Warfare*, the paper is presented in two distinct parts. The first, concentrates on the technological developments that are occurring in ASW, as these technologies are likely, in time, to appear within our region. The second part, addresses regional ASW trends and considers the implications of these trends for the regional balance. The force structures of regional navies is only lightly touched on, as it is trends which are important in the longer term, not the specifics of equipment acquisition.

General Technological Trends in ASW

So what are the technological trends in ASW? The *New World Order* has imposed a fundamentally different rationale on ASW for the United States (US) and this is affecting the way ahead. No longer is the sole concern for the US the detectability and counter-detectability of SSBNs and SSNs, but also how to combat quiet conventional submarines in shallow water. This requirement has been hitherto overlooked and the problems which we have faced for some time are now being addressed.

Two common expressions in ASW are that *the passive window is closing/has closed*, and *you cannot find conventional submarines with towed arrays*. The solutions to these problems are seen as lying in low frequency active (LFA) sonar and alternative signal processing strategies. Whilst LFA may be the active way to the future, the signal processing advances may show that conventional submarines may be detectable passively; ie. the passive window may remain open, the information to be obtained and the way, may have changed dramatically.

Low Frequency Active. A number of approaches have been proposed for LFA, the majority based on some type of bi-static or multi-static application[1]. In general terms this involves transmission of low frequency acoustic pulses from one site, with reception of the reflected signal by a separate sensor, either co-located on the same platform or at a geographically removed site, or sites. A bi-static approach could for example consist of transmission on a low frequency hull mounted sonar with reception via an array towed by the same ship, an approach being pursued by the US Navy to allow the Surveillance Towed Array Sonar System (SURTASS) ships to operate in shallow water[2]. Other bi-static and multi-static possibilities are:

- transmission by a ship borne variable depth sonar (VDS) with reception by a towed array;
- transmission by a helicopter VDS with reception by a towed array ship, or number of ships;
- transmission by a helicopter VDS with reception via a pattern of sonobuoys; and
- transmission by a bottom-mounted transmitter with reception by towed array ships, sonobuoy field or bottom mounted array.

In all these approaches, with the exception of having the transmitter and receiver co-located on the same platform, accurate knowledge of the position of the transmitter or the instant of transmission is required. From this information, and using the difference in arrival times and bearings for the direct path and reflected path signals, a location for the submarine can be determined.

The accuracy of the submarine position suffers however with LFA. In some cases this accuracy is insufficient for the launch of a homing torpedo. In an operational scenario initial long range detection and tracking could be undertaken with LFA sonar, but fire control solution generation, and attack would require a more accurate sensor; for example, a medium frequency sonar or a non-acoustic sensor such as Magnetic Anomaly Detection (MAD).

Other Acoustic Developments. Other acoustic developments in ASW also feature the use of towed array technology. For example, a bottom array field can be integrated with a bottom mounted sonar and weapon system to provide *hands off* protection for focal areas. In such an arrangement the array field detects acoustic noise, passively classifies the source and obtains initial positional information. Having determined that the source is a target of interest either through reference to an on-line signature library or by analysis from an operator ashore, the sonar, most likely a low probability of intercept (LPI) sonar, is activated, the target is tracked and a fire control solution generated. Engagement could then be undertaken utilising the embedded weapon system. This entire process could be computer controlled, perhaps with an overriding command function positioned ashore to *watch* developments via a fibre optic link and orchestrate the engagement.

Totally optic arrays will become possible in the longer term, with benefits in simplified array design and reduced cost making the use of extremely large networks of arrays feasible[3].

Signal Processing Developments. New directions in signal processing aim to *do more with the same* rather than to *do more with less* like the rest of us are constantly exhorted to do. That is, signal processing strategies are being developed to utilise information that already exists in the received signal but which is presently not utilized; most particularly with regard to transients. As the name implies these transients are not permanent features of the submarine, but occur due to state, machinery or other changes, for example opening a bow cap. Analysis of these transients can give detection, classification and tracking opportunities, but can also, if properly understood and utilized,

give indications as to the operational status and intentions of the contact.

Other developments are occurring in the processing of random arrays. For example, the output of each buoy in a sonobuoy field can be processed to form a single large array thereby providing higher array gain and lower frequency detections than would have been possible from each buoy individually. The approach requires accurate positional knowledge of each buoy within the pattern. Problems experienced to date in this regard may be overcome with the use of a Global Positioning Systems (GPS) receiver in each sonobuoy.

Non-Acoustic Developments. Another area of ASW which has been of intense long-term interest, but little result (some cynics may say that this describes ASW in total), is that of non-acoustic detection (NAD). Any breakthrough in wide area NAD systems would have significant strategic implications. Systems known to be under consideration include space based systems, an improved Magnetic Anomoly Detection (MAD) system, the use of light for detection and ranging, and detection of the submarine through the detection of the internal disturbances its passage causes in the water column. With the exception of the latter, all would appear to have greatest utility for shallow water work, and most particularly for geographically constrained areas.

Weapons. In ASW weapons the main technology remains the torpedo, although the requirement to work in shallow waters has revived international interest in both depth charges and thrown weapons, particularly as a classification aid. For torpedo countermeasures most interest remains in the anti-torpedo torpedo and in decoys, both towed and off-board. A mortar style system akin to the RBU 1000 fitted to ex-Soviet warships can also be an effective system against incoming torpedoes (based on modelling it can be over 90% effective), but does require three dimensional knowledge of the torpedo's position and engagements to be conducted at short range[4].

Australian Developments. The developments covered so far are all being considered overseas. What however is being addressed within Australia? Our ASW activities centre on two main areas; signal processing (which I have already covered) and slim line towed arrays. Two slim line technologies have been developed. The first is the solid-fill KARIWARA streamers currently in full scale engineering development (FSED) by GEC-Marconi Systems (GMS), from initial work undertaken within the Defence Science and Technology Organisation (DSTO)[5]. Tests and trials conducted to date have indicated that the array will meet the acoustic and mechanical specifications against which the technology has been developed.

The other technology is NARAMA, a slim line fluid filled array developed by Australian Sonar Systems (AUSSYS). A sea trial of a NARAMA array was conducted in March this year utilising an Oberon submarine. I believe that the trial was successful and that the array showed low levels of self-noise.

Both array technologies will have utility for the surface ship, submarine and bottom mounted applications.

Implications for the Regional Maritime Balance

These technological trends are at the leading edge of ASW. What however is happening within our region? It is well documented that regional countries are showing a heightened interest in all maritime aspects of warfare; and this includes submarine and anti-submarine capabilities[6]. It is not unreasonable to expect therefore, that increasingly advanced systems will be progressively introduced[7]. The driving forces for this maritime development are:

- the requirement to maintain the security of the regional sea lanes of communication (SLOCs) for ongoing economic performance and development. This includes any perceived vulnerability of traffic in these lanes to submarine interdiction[8];
- the requirement to maintain the

security of maritime claims made under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), particularly noting that China, a major player in any final determination of boundaries possesses a large submarine force; and

- the requirement to conduct surveillance of national maritime estates. Such surveillance must include the underwater environment if it is to be complete.

In addition to improvements in its surface ASW capability, Indonesia is known to be particularly interested in bottom-mounted arrays for focal area and archipelagic surveillance. Being an archipelagic nation with a vast number of potential transit routes, the use of bottom mounted arrays is an understandable and cost effective solution. It allows continuous surveillance to be undertaken, for both surface and subsurface traffic. This is not to imply that fixed arrays will be a total solution for Indonesia, only that they can fulfil a significant part of the total surveillance requirement in a cost effective way.

Singapore has recently acquired an ASW capability through the VDS fitted to its new class of missile corvettes. An ASW capability is considered by the Singapore Navy to be a critical factor in the fulfillment of its role to safeguard the freedom of navigation through the adjacent SLOCs[9]. Noting the limited extent of its maritime estate, and that the platforms have tasks other than ASW to perform, the utilisation of relatively short range, ship-borne sensors for the underwater surveillance task is considered a cost effective option as it avoids the high capital cost of dedicated ASW infrastructure.

Malaysia and Thailand are also in the process of upgrading their maritime capabilities. Malaysia has acquired two new frigates with an ASW capability and dipping helicopters are under consideration. Thailand is also believed to be in the market for ship-borne ASW helicopters and additional frigates.

For these countries the choice of surveillance platforms is not so clear cut. Malaysia in particular could face a number of different ASW scenarios which may affect the choice of capability. Malaysia is a geographically separated country with three main coastlines along which to conduct surveillance. Over 90% of its external trade is seaborne[10]. It has a requirement to maintain the lines of communication between East and West Malaysia. It also, along with China, Taiwan, Vietnam, the Philippines and Brunei, is a claimant for part of the Spratly Islands in the South China Sea[11]. In order to fully meet all requirements, Malaysia will need a range of ASW capabilities, including shipborne sensors and ASW helicopters for SLOC protection and for a presence in the Spratly Islands, and maritime patrol aircraft for surveillance of the Indian Ocean approaches and the South China Sea.

Whilst the strategic rationale for the interest in ASW by Indonesia, Singapore and Malaysia is readily apparent, the same cannot be said for Thailand[12]. Thailand's economy is not heavily dependant upon sea transport (as Singapore and Malaysia)[13], Thailand does not have concerns over archipelagic security and SLOC surveillance (as Indonesia), Thailand does not have claimed maritime sovereignty issues, nor internal communication lines, to consider (as Malaysia). It does however have two separate coastlines over which to conduct surveillance.

It has been stated by a Thai commentator on defence issues that, due to the conflicting demands of the political and military roles played by the Thai military, exacerbated by inter-service rivalry and competition for budget allocations, that 'where defence spending in general and arms procurement in particular are concerned, there is no priority-setting based on security requirements or threat perceptions'[14]. Interest in ASW by the Royal Thai Navy (RTN) may therefore only be a continuation of a wider interest in the acquisition of submarines.

How are these improvements in ASW capabilities likely to change the regional maritime balance? Are these changes threatening to regional stability, or beneficial in some way? Can they be used to further regional cooperation and confidence building? The remainder of this paper deals with these questions.

ASW is a reactionary and inherently defensive business. That is, actions are generally taken to defend nation assets in reaction to a perceived threat posed through the use of submarines by another party. Such useage can include surveillance and intelligence gathering, the interdiction of commercial and military shipping, the landing of special forces, the mining of harbour entrances and other focal areas, and the application of pressure during periods of tension through threatened use or posturing. Such posturing will obviously have more effect if the other party feels insecure and has no real means of countering this pressure.

Success in ASW depends upon the ability to detect submarines, all other activities being dependant upon this ability (or inability as the case may be). This detection is notoriously difficult (a fact a large part of the audience would attest to) and depends, not only on the type of equipment being employed and an ability to operate it correctly, but on an understanding of the environment and the way in which an adversary is likely to use submarines.

Regional countries are in the early stages of building an ASW capability; numbers are small and expertise limited. The implication of this is that, in the short term, the regional balance is unlikely to be affected. The probability of submarine detections will therefore not rise markedly and consequently little pressure will be placed upon countries with submarines to alter operating patterns. This is not an ethnocentric view; it merely reflects the fact that 'the necessary skills are difficult to acquire and the lead times for adapting and developing ASW technology ... are long'[15].

In the longer term however, if ASW capabilities continue to develop and include the introduction of more advanced technologies, particularly LFA, there may be other, more wide-ranging, implications.

The most obvious of these is that the probability of submarine detections will increase; that is any submarine operating within the area be it American, Chinese, Japanese, Russian, Indonesian, or Australian. The question then becomes that of how the countries that have submarines within Asia-Pacific will alter the operating profile of their boats to cater for the increased ASW capability; or will they not bother? After all, submarine activities can only be attributed to any one country if that submarine can be positively identified, and the difficulties in making such positive identification are well known.

The major impact of further development in the ASW capabilities of regional countries will be felt in the South China Sea. A number of overlapping claims for territorial and maritime sovereignty have been made in this area, the most visible and contentious being the Spratly Islands. The passing of legislation by China in February 1992 legalizing and further stressing China's claim to the entire disputed area around the Spratly Islands has made a number of countries nervous with respect to Chinese intentions in this area.

The capability of the Spratly Islands *claimants to conduct ASW operations* within the area (in addition to Malaysia, Taiwan is also developing its ASW capabilities) may reduce China's ability to influence the course of events in this dispute through the use (implied, threatened or actual) of it's submarine force. Should Chinese submarine activity be inhibited towards Malaysia and Taiwan, it would most likely be redirected towards those areas in which the claimants do not possess an ASW capability.

The South China Sea also contains vital sea lanes of communication. These SLOCs are crucial to the economic performance of North East

Asia[16], as well as regional countries. An increased ASW capability would add to SLOC security by inhibiting the unrestricted use of submarines along these routes. The option of escorting selected shipping through focal areas, provided suitable weapons are also possessed, also becomes available.

An increased ability of regional countries to conduct ASW must therefore be beneficial for regional stability as it may inhibit the use or movement of an offensive weapon system, the submarine. Any future acquisition of more advanced ASW technologies by regional countries, bi-static or multi-static LFA for example, should similarly be considered as a regional stabilizing factor; under-sea surveillance capabilities would be further enhanced, and submarine activities would become more *transparent*.

The increasing numbers of modern submarines being operated by Asian nations, and in particular moves by Malaysia, Thailand and possibly Singapore to acquire a submarine force, coupled with the trend toward increasing regional ASW capabilities, makes more onerous the already difficult task of identification, and increases the risk of engagement due to *mistaken identity*. This problem provides an opportunity to highlight water space management as a confidence and security building measure (CSBM) and an opportunity for further regional co-operation.

In Europe water space management is achieved for western countries under the framework of the NATO alliance. In Asia-Pacific such an approach is not possible as no comparable treaty framework exists; nor is one likely or even required to exist. Notification of submarine movements could be addressed as a declaratory CSBM; perhaps initially on a bilateral basis.

The declaration of such information does not necessarily need to be conducted between two countries that both have a submarine force, nor cover the submarine's location at all points. An agreement could focus on the provision of submarine positional data only when within certain negotiated areas for a number of individual countries. That is, provision of submarine movement data could be exchanged with Indonesia, for example, on a different basis than that provided to Malaysia, or Singapore, or Thailand. Such a declaratory agreement would provide complementarity with other surveillance CSBMs. Australia, being in possession of a submarine force, is in the position therefore of being able to take some action in this regard. This would lessen the water space management problem that will become increasingly more important and provide another step on the ladder to regional common security.

In conclusion, the regional trend is toward the introduction of new systems and the improvement of ASW capabilities; in some cases with direct Australian assistance and encouragement. More advanced systems will inevitably be introduced as maritime force structures mature and regional countries gain more experience and expertise in the utilisation of these assets.

These increasing regional ASW capabilities are considered to be beneficial for stability and should continue to be encouraged. We should therefore continue to be expend resources on developing the ASW expertise of regional countries. The further introduction of the more advanced ASW technologies and capabilities is similarly considered a stabilising effect as it has the potential to inhibit the use of an offensive weapon system within the region.

These developing capabilities present additional opportunities for a co-operative approach to security. Such opportunities must be seized if we are committed, in the words of Bob Hawke in 1991, to 'seek(ing) security in and with Asia (rather than) seeking security from Asia'[17].

Notes.

1. For a good unclassified description of the bi-static/ multi-static concepts see Lok, J.J; 'Active revolution in ASW sonars', *Jane's Defence Weekly*, 20 July 1991, p.103.

2. *Inside The Navy*, Vol.6 No.1, 4 January 1993.

3. See Foxwell, D; 'Fibre-optic sonars: optical arrays for acoustic detection', *International Defense Review*, 3/1992, March 1992, pp.239-242.

4. Dunk, G.A., *An Investigation of the Effectiveness of a Hard Kill Torpedo Counter Measure System*, Royal Naval Engineering College, Manadon, 1988. (unpublished)

5. For coverage of the KARIWARA technology and applications see Dunk, G.A, 'KARIWARA - Australia at the Leading Edge of Towed Array Development', *Maritime Studies*, No.68, January/February 1993.

6. *Australia's Strategic Planning in the 1990s*, Departmental Publications, Department of Defence, Canberra, 27 November 1989; paragraph 5.4 for example states:

   'Whereas, traditionally, regional countries have concentrated on land forces, and continue to retain significant capabilities in this area, there are clear trends in regional force structure development which indicate increasing emphasis on naval and air forces, especially for maritime operations'.

7. For coverage of more general trends in the defence spending of Southeast Asian nations see Chin Kin Wah (ed), *Defence Spending in Southeast Asia*, Institute of Southeast Asian Studies, Singapore, 1989.

8. For a (now somewhat dated with the demise of the Soviet Union) discussion on the security of the sea lanes of communication in Asia, from the perspective of the individual countries, see Soon, L.T and To, L.L (eds), *The Security of the Sea Lanes of Communication in the Asia-Pacific Region*, Centre for Advanced Studies, Singapore Institute of International Affairs, Heinemann Publishers Asia, Singapore, 1988.

9. Interview with the Chief of the Navy, Royal Singapore Navy, Commodore Teo Chee Teo, as reported in Toremans, G, 'The Republic of Singapore Navy', *Naval Forces* No.1/1992, Vol. XIII, January 1992; pp.10-14.

10. Hamzah, B.A., 'Sea Lanes of Communication Security: A Malaysian Perspective', in Soon, L.T and To, L.L (eds), *The Security of the Sea Lanes of Communication in the Asia-Pacific Region*, p.119.

11. For a good description of the status of the overlapping sovereignty claims in the South China Sea see Conboy, K; 'The Future Southeast Asian Security Environment', *Strategic Review*, Volume XX, Number 3, Summer 1992, United States Strategic Institute, Washington DC, 1992; pp.34-39.

12. For further detail of the strategic perceptions of these countries see the relevant sections of Chin Kin Wah (ed): *Defence Spending in Southeast Asia*, Sukhumbrand Paribatra; 'Thailand: Defence Spending and Threat Perceptions', p.75-108; Dorodjatun Kuntjoronjakti and Simtupang, T.A.M; 'Indonesia: Defence Expenditure in the Period of the New Order, 1967-1985', pp.109-132. Muthiah Alagappa; 'Malaysia: From the Commonwealth Umbrella to Self-reliance', pp.165-193. Chin Kin Wah; 'Singapore: Threat Perceptions and Defence Spending in the City State', p.194.

13. For detail on the relativities of Thai and other ASEAN nations seaborne trade and other trading information see Dhawon Sukhakanya; 'The Security of the Sea Lanes in Southeast Asia', and Hazah, B.A., 'Sea Lanes of Communication Security: A Malaysian Perspective' in Soon, L.T and To, L.L (eds), *The Security of the Sea Lanes of Communication in the Asia-Pacific Region*, pp.21-44 and 118-125. See also Tyabji, A; 'The Six Asian Economies: 1980-88' in Broinowski, A (ed), *ASEAN into the 1990s*, Macmillan Press, London, 1990, pp.32-57.

14. Sukhumbrand Paribatra; 'Thailand: Defence Spending and Threat Perceptions', in Chin Kin Wah (ed), *Defence Spending in Southeast Asia*, p.104.

15. *The Defence of Australia 1987*, Presentation to Parliament by the Minister for Defence, the Honourable Kim C. Beazley, MP, March 1987, Australian Government Publishing Service, Canberra, 1987; paragraph 4.20.

16. Conboy, K; 'The Future Southeast Asian Security Environment', states that 90% of the oil destined for Japan/South Korea passes through the South China Sea.

17. Hawke, R.L; *The Asia Lecture*, delivered on 24 May 1991 at the Asia-Australia Institute, University of New South Wales, by the Prime Minister, Mr Bob Hawke, as reproduced in *The Monthly Record*, Australian Foreign Affairs and Trade, Number 5, Volume 62, May 1991; p.200.

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THE EFFECTS OF SOCIAL CHANGE ON LEADERSHIP

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Equal 1st Prize Officer's Section: Peter Mitchell Trust Essay Competition 1992.

INTRODUCTION

Alfred Lord Tennyson suggested that "our little systems have their day (then) ...cease to be." This inevitability of change is undeniable, however it is not absolute and in this sense, 'our little systems', such as social structures, values and traditions, cannot simply cease to be nor can they abruptly and fundamentally alter. Change is evolutionary; a continuous and perhaps cyclical process which, although it cannot be stopped, can be influenced.

Equally, social change, as a natural although not predetermined process, is influenced by the vagaries of human-kind which interact to define the range of future possibilities. In this sense, social change can be considered a reaction to challenges posed by stimulants such as the economic process, politics, commerce or the media. As a natural consequence of group processes, leadership is an essential and mutually dependent ingredient of social forces and, generally, sound and purposeful leadership defines the parameters within which these forces react; while emergent social norms and expectations characterise the limits of acceptable leadership *behaviour. As a sub-system of society* the military reflects social norms, although with certain essential differences; however, military leadership is less concerned with controlling social forces as it is with working within them. Despite this, social change brings with it challenges to accepted military practices which must be understood if military culture is to remain socially relevant.

This essay will consider what effects social change has on military leadership. Following a broad discussion of social change, a brief overview of leadership theories and then of leadership in practice is given. The focus will then narrow to a military perspective in which a 'leadership culture' is considered and finally some observations are made of the Australian Defence Force (ADF) and its own leadership culture.

Contemporary definitions of leadership vary according to the context in which it is being viewed but for the purpose of this essay leadership is considered to be the capacity and the will to rally [people] to a common purpose and the character which will inspire confidence.[1] Although processes such as power, authority and discipline figure significantly in military culture, leadership differs fundamentally due to its unique capacity to be without recourse to the other three.

PERSPECTIVES OF SOCIAL CHANGE

Historically, social change is readily identifiable and there are many agents of change, some more discernible than others. Technology, education, nationalism, globalisation, environmental issues; all these things and more affect how society structures itself, its practices and its future. These agents are not mutually exclusive, although their relationships are often blurred; however, it seems undeniable that technological progress is the singular most profound catalyst for change generally.

Typical of most societies over the last two centuries are the effects of a technological acceleration which continues today. Although responses differ over time, the almost overwhelming speed of technological progress during the last century has provoked the all too commonly held fear that we are rapidly losing, have perhaps already lost, physical and mental control of our society.[2] This fear relates not just to social

structures but also to the natural environment, which is under increasing pressure from technological and social trespass. Fashion, customs and many social trends are driven by the forces of consumerism, the pressures of which saturate society via the mass media. Advances in education are both a result of, and a stimulant for technological innovation and the future for education services is one of substantial growth.[3] This growth results from the complex nature of the modern workplace.[4]

Australia has been slow to take up the now familiar call for more training and development of its work force, although as we see this rectified, an all too apparent down-side looms larger.

With advances in workplace technology comes a shrinking manufacturing sector and a flourishing service oriented economy, all of which spell a requirement for a smaller and more highly skilled work force. Where does this leave the unlucky ones displaced from the work force as a result and where do they turn? Always a symptom of social instability, resurging nationalist dogma, with its ultra-right wing ugliness, is becoming frighteningly apparent in Europe and even America, with their growing legions of frustrated, unemployed workers.

Conversely, the modern world is undergoing what some call a "globalisation" of its economy and even its society, in which national boundaries are lowered and economic 'rationalism' is pursued, although the imbalance between developed and non- developed economies renders the lie to this proposition. Manufacturers and producers have simply expanded existing markets or created markets where none previously existed.[5] One such recent innovation is international currency speculation which, resulting from the fine tuning of information technology, allows an unscrupulous and formless few to play this market like a board game and thus profoundly effect the fate of whole nations. The recent British Pound debacle is a case in point.[6]

Despite the gloom that these observations portray, there are other influences on society which force change in more optimistic directions. The media can also be a major influence for good in society as evidenced during the Vietnam War. Upon confronting the disturbing political realities of the war, TV and print journalists helped bring about the eventual collapse of public support for the campaign with their undeniable images of human waste and suffering.[7] The graphic and immediate portrayal of social issues through the media, even in artistic form, provides society with diverse interpretations of its past, present and future, thus influencing responses which may not otherwise manifest. As Norman Mailer contends, "a writer of the largest dimension can alter the nerves and marrow of a nation."[8] A current example of purposeful, although not necessarily balanced, media analysis is that given to environmental issues and, albeit that public decision making becomes harder as a result, society is at least forced to confront issues more directly.

This proposition, that the actions of a society are a consequence of some form of influence, forms the heart of this essay. The means by which people are motivated in one or other direction whether on a cultural, societal, institutional, organisational or individual level is the essence of leadership.

LEADERSHIP IN THEORY

Any theory is only as good as its practical results and, generally, theories can only provide models or abstractions by which we may study phenomena. Theoretical models of leadership are no different and because there is a tight relationship between leadership and social change, absolute and prescriptive doctrines may quickly become outdated. However, the 'trait theory' is possibly the most enduring of leadership theories and is regaining some currency after taking a back seat to behavioural and contingency theories since the Second World War.

The essence of modern trait theory lies in the popular conception of attributed leadership qualities such

as strength, confidence, vision, conviction or the appealing 'catch-all' concept of charisma. However, neither charisma nor any of these other qualities necessarily exist in or are easily bestowed upon potential leaders. Studies suggest however that certain personal traits, including those listed above, are often but not always present in individuals fulfilling traditional leadership roles.[9]

Behavioural theories attempt to define the best strategy to adopt in a given environment and while the models are generally adequate for stable and routine organisational settings, their structured concept is inappropriate for the more personal and fluid dynamics of leadership. A distinction between leadership and management is necessary here and in summary of Abraham Zaleznik; management is an impersonal even passive approach to achieving goals, whereas leadership is personal and active.[10] The third group of leadership theories are classed under contingency models which, simply stated, view leadership as a function of situational variables. The variables are viewed in some tabular or continuum format arranged so as to portray a range of leadership style from the extremes of autocratic to democratic. Their situational context make these theories more pragmatic but they are no less theoretical.

THE PRACTICAL ESSENCE OF LEADERSHIP.

Like the 'Gordian Knot', the practice of *leadership is simple; so simple in fact* that its mastery eludes most of us - at least most of the time. To clarify; Gordius, a peasant in ancient Greece who became King of Phrygia, left his peasant wagon in the market-place tied at the yoke with a complex knot. The prophecy that he who loosed the knot would rule all Asia was fulfilled when, after many centuries, Alexander the Great split the knot with his sword. The significance is that there is no step-by-step method of becoming a leader, no thirty day program, no convoluted text-book solution. In essence, a true leader does not consider how the leadership role should be achieved. Practical leadership cannot be attended by images of graphs and abstract models, it must be a natural consequence of ingrained ability.

Successful leaders have inherent qualities which distinguish them as deserving of followship. Theory has rightly established the personal and relational basis of sound leadership, together with the influence of situational variables. The latter is significant because a quality leader will not emerge unless there is a requirement to do so.[11] Ultimately, it is the perception of others that propels an individual to a leadership position.[12] The similarity with trait theory is apparent here, although there seems to exist few discussions of this or any other leadership theory which adequately address the question of how to achieve these ideal qualities. The following proposition suggests that leadership qualities are a function of the environment in which an individual develops and that these qualities, although they can be learned in principle, cannot exist in a natural sense without many years of environmental nurturing.

Popular leadership attributes tend to include self-confidence, vision, conviction, strength and fair-play which are similar to the traits identified in personality studies.[13] One extreme of the behaviourists' debate considers that personality is pre-determined at birth and linked to chemical messages transferred in the genes, whereas the other extreme regards the environment in which an individual develops as the deciding factor. Recently, it has been argued that the situational variable contributes significantly, where different demands in different situations call forth different aspects of one's personality.[14] As we have seen, situational considerations are also related to effective leadership ability. This paper contends that leadership ability, while emerging only in given situations or environments, is inherent, just as personality is inherent, and that the personal qualities constituting effective leadership will have been nurtured

over time. These are natural qualities and they emerge as a natural consequence of external stimuli. Having accepted that environmental interaction over time develops personal qualities, it follows that developing leaders becomes a matter of creating a culture in which these qualities can be cultivated.

C.A. Gibb touched on the notion of a leadership culture although he was more concerned with behavioural tendencies based on the traditional assumption that leadership is the preserve of a privileged few.[15] However, this paper proposes that leadership qualities can and should be the norm. The proposition is not completely new but the immensity of its implications are daunting and, as a result, have largely been ignored in favour of popular, paperback prescriptions.

SOCIAL CHANGE AND MILITARY LEADERSHIP

War has always had the most tangible effects on society. The two World Wars helped alter world geography and fundamentally internationally, the effects of shifted political ideology which continue to manifest, as in the recent political revisions in Europe. Similarly, the consequences of America's involvement in Vietnam during the 1960s are many and varied. International relations will forever be viewed in light of the 'Vietnam experience'. Poor management of the war by both the United States Government and its Military, together with arguably reckless allied support, shattered faith internationally in traditional authority.

Savage and Gabriel have analysed the 'crisis of leadership' which manifested in the US Military during the Vietnam era and the failure of 'new managerialism', which had come to dominate military processes since World War Two.[16] Importantly, they concluded that a military organisation which defines success in terms of managerial values and the norms of the professional bureaucrat will produce good managers but lousy leaders.[17]

No more graphic illustration exists of this leadership crisis than the My Lai Massacre of 1968, where American soldiers and officers fell into a frenzy of rape and murder of Vietnamese villagers. Also, My Lai is possibly the most significant catalyst for profound social change resulting from the Vietnam War; its disclosure shocked the world. In a graphic telling of the massacre, Neil Sheehan writes: "One soldier missed a baby lying on the ground twice with a .45 pistol as his comrades laughed at his marksmanship. He stood over the child and fired a third time. The soldiers beat women with rifle butts and raped and sodomised others before shooting them." The Platoon Leader, Lieutenant William Calley, who was accused of personally murdering over a hundred villagers, was convicted of the "premeditated murder of at least 22, including babies...".[18] He was sentenced to life in prison at hard labour. Perhaps the most frightening aspect of this case is not the horrific nature of the crime but the fact that the US military was able to suppress its disclosure for almost a year. A measure of American faith in their nation's moral values at the time was evident in the result of a poll conducted in St. Louis soon after the massacre was disclosed, where only 13% of those polled claimed Americans could commit such a crime.[19]

In isolation, My Lai may not have impacted society, but the disclosure resulted in a flood of similar reports from grieving or outraged soldiers who had lived with the guilt and knowledge of other atrocities and were glad at the opportunity to unburden themselves. Like the Nuremberg Trials of Nazi war criminals, such compounding reinforcement of atrocity in war irreparably altered the framework of society and how it viewed its leadership - in all respects.

The emotive and sensational nature of this illustration carries the central message which must be appreciated in order to understand its effects on society. American public opinion was already turning against the war in 1969 when My Lai was disclosed but the impact of such a savage capacity displayed by its own people was

stunning and wreaked havoc on the country's value systems and on its national faith.

The uncontrolled and undisciplined military command evidenced at My Lai was sadly typical of US Forces in Vietnam and was due to many factors which are well documented elsewhere. Relevant to this discussion however, is Savage and Gabriel's rebuttal to critics of their Vietnam analysis in which they stress their position; "that leadership is a quality that cannot be separated from the environment in which it must operate", and that a leadership environment which "rewards managerialism and obedience to judgement-limiting rules" is ineffective.[20] Is this 'crisis of leadership' a thing of the past and is it confined to the US military? The final section will argue that the ADF may currently be suffering the effects of 'managerialism' which is blurring the concept and practice of leadership.

LEADERSHIP IN THE AUSTRALIAN DEFENCE FORCE

Australian society is currently undergoing considerable change which will impact in varying degrees on the ADF. Such national issues as the transformation of industrial relations and the inevitable advent of employment contracts, plus the inexorable ascent of Australian Republicanism, both pose fundamental ideological dilemmas for a disciplined and traditionally monarchic service. Also, existence of the Armed Forces Federation of Australia (ArFFA) must, by its very nature as an external 'employee advocate', confuse the traditional organisational leadership function. These issues cannot be considered in depth here; their reference simply serves to illustrate the changing environment within which modern ADF leadership must function.

However, despite social forces, the raison detre for military service remains extant:

> ...the values necessary to defend a free society are not identical with the values of the society itself. Our job is to produce combat leaders who can train and lead units capable of executing missions under conditions of severe hardship, searing emotion and extreme danger.[21]

This fateful truth may be balanced somewhat by an apparent shift in contemporary military direction. Australian public attitude towards national defence requirements has generally been regarded as ambivalent, although support for the Gulf War was overwhelming. Perhaps this enthusiastic domestic response to a popular international objective demonstrates a social vision for military operations. Perhaps, as the global ramifications of national policies are better appreciated, the international community is approaching the age of formally regulated international police actions.[22] This may seem a fairly romantic assumption, although from the perspective of social change effecting leadership, the scenario may one day prove an example. For the present discussion however, it is sufficient to relate to what may be considered an unsatisfactory organisational sense of purpose, in terms of being able to encompass the changing social conscience back to an effective military leadership environment.

Unfortunately, Australia seems to regard Defence as just another Public Service activity, which bleeds the national purse and provides generally ill-defined returns on investment. Military command and control is affected by the bureaucratic imperatives of budgetary competition, shared responsibility and efficiency scrutiny processes. This is not a cynical attack on the Australian Public Service (APS), which receives little enough political recognition and public support, but the question arises whether the ADF can thus maintain a viable military perspective. As Major General D.M. Butler, AO DSO (RL), wrote in 1985; "The hallmark of the military professional is in his competence in the areas of strategy, tactics and military administration, and it is to that focus our institutions must return."[23] Importantly, this focus should continually strive to maintain its

relevance with regard to the changing nature of international relations and conflict resolution?

Using the 'anti-managerialist' thesis once again we can see how the bureaucracy within the ADF may detract from military leadership. Savage and Gabriel argue perceptively that there exist four important factors for the maintenance of a military leadership environment: an officer corps of around 6% of total military strength as historically effective; a prevailing code of values which encourages personal judgement and initiative; assignment stability beyond the standard 18 to 24 months, in order for essential professional confidence and inter-personal bonding to develop; and the recognition of military service as a special calling.[24]

In the ADF the officer corps comprises around 20%[25] of the total force; the code of values appears generally bureaucratic; assignment stability is not a dominant feature; and, as some might argue, a sense of prestige in military service is, if not gone, fast disappearing. Viewed from this perspective it is apparent that the fundamentals of a leadership culture do not dominate in the ADF.

Individual qualities essential in a leadership culture are well known but should be plainly and often stated. Together with firmly establishing an accepted moral code and sense of ethics, a leadership culture demonstrates by example the qualities of courage, loyalty, integrity, humanity, commitment, consistency and of course, knowledge and ability. History demonstrates, and US Generals Eisenhower and Marshall are clear examples, that in times of social instability, or of social reconstruction following crisis, people prize the virtues of sound military leadership. It seems clear therefore, that the duty of military organisations is to foster the optimum environment in which such values and thus, balanced leadership, can thrive.

CONCLUSION

Leadership, as a discrete social and organisational quality, together with social change, determine mutual limits and trends. In relation to such processes as politics, the media, education, nationalism, globalisation and the environment, technology remains a dominant force for social change and, despite significant negative pressures, such as economic instability, violence and war, positive social change generally prevails. Balanced leadership is a force for positive social change and its understanding and development are subject to essential, although often confounding debate.

Although leadership ability is essentially a natural consequence of inherent personal qualities and one that is traditionally prized in the military, its practice may have been influenced by 'managerialist' concepts to such an extent that a leadership culture appears less discernible in many military organisations, including the ADF.

Further, it is inconceivable how any military organisation can engender a leadership culture if it fails to maintain a clear understanding of social, as against merely political, objectives. In this context there are profound social forces embodied in both, current industrial relations issues, and the Australia Republic campaign, which will impact significantly on the ADF and which should be attracting wide, professional debate.

Military service must embody an expectation of personal and professional challenge that, despite often ambiguous social norms, clearly demonstrates the values and virtues that society turns to in times of crisis and social reconstruction. This expectation is vital to any assessment of future ADF organisation and roles which, due to their unique nature, must remain distinct and unambiguous. The final point is fundamental: while military doctrine may be changing, the essential virtues of military leadership and the responsibility for their preservation, remain unchanged.

Notes

1. Ministry of Defence, 1964:3.

2. Joseph Weizenbaum in an interview in the science magazine *OMNI*, December, 1979.
3. See Miles and Cershuny for a discussion of social effects of information technology.
4. J.R. Baker considers this point in his AJPA article of September, 1989, as does John Mathews in his many works on 'post-industrial' society and 'post-Fordist' work practices - see particularly *Tools of Change*.
5. Ohmae's *The Borderless World* presents an interesting thesis on shrinking world markets, although very much from a pragmatic Japanese businessman's viewpoint.
6. For an almost sympathetic example summarising this phenomena, see Max Walsh's column in the Sydney Morning Herald of Tuesday, October 27th, 1992:35.
7. See Barnouw Chapter 5.
8. Interview in the New York Times Magazine, September 9th, 1954:79.
9. See Stogdill, 1948:91.
10. Robbins, 1990:355.
11. Stogdill, 1948:125.
12. Clifford and Cohn, 1964:188.
13. Stogdill, 1948:123.
14. Robbins, 1990:91.
15. Gibb, 1969:205.
16. See Gabriel and Savage, 1978.
17. Savage and Gabriel, 1980:63.
18. Sheehan, 1989:689.
19. Guenter, 1978:377.
20. Savage and Gabriel, 1980:56.
21. General W. Richardson quoted in Butler, 1985:109-110.
22. These sentiments have reportedly been discussed at recent United Nations conferences.
23. Butler, 1985:111.
24. Savage and Gabriel, 1980:56-60.
25. Department of Defence, 1990:4.

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MARITIME DEVELOPMENTS IN SOUTH KOREA

Korea's path to a regional sea-power: advantages, restrictions and requirements.

Sang-Yoon Bae

This paper aims to shed light on the future of the South Korean Navy through examining the historical conditions and current contributory factors which have influenced, and which will crucially affect the Korean Navy[1] in the coming years. It will also examine several necessary conditions for a less provocative build-up in the future development of the South Korean Navy. It is a widely held belief that the Korean maritime force is at the level of a coastal navy in terms of both its structure and capacity.[2] As shown in the Table 1, the Korean Navy mainly consists of corvettes and fast-attack-craft, primarily for off-shore patrol and guard. These are of course common components of a coastal navy .

The development of the Korean Navy seems strange in some respects due to its:

- traditional status as an maritime nation;
- geographical position as a peninsula; and
- experience of the significance of naval power, clearly demonstrated by the United States Navy (USN)during the Korean War.

With all these advantages, Korea perhaps should have grown up as a major sea power, or built a stronger naval force, in the North East Asian region. The Korean Navy does not have the capacity to perform a significant role in the blue sea around the Peninsula. It is only now that Korea seems to be taking the opportunity to do so. In answer to why this is so, there are many factors which have restricted naval development in South Korea.

Restrictions imposed on the South Korean Navy since the Korean War

The ROKN growth has been influenced to a large extent by two important external factors acting in conjunction with several internal factors. The first external factor has been the threat from North Korea. Since the Korean War, the threat of re-invasion from the North has had an influence on not only the structure of the Korean Navy but also the overall defence posture of South Korea .

Most of all, North Korea's threat to attack the South through the crossing of the *38th Parallel* has left the Korean government with little choice but to strengthen its army to encounter the army-dominated North Korean force.[3] Accordingly strategic policy-makers in South Korea have greatly emphasised the role of the army while relegating the navy to a force structured to assist the land force. In this respect the Korean Navy has been structured to meet the army's needs rather than to fit its own strategic requirements. Because of North Korea's continuous attempts to conduct espionage through the coastal line, it was a widely held view among military strategists that the Korean Navy's prime role should be to build a anti-espionage net throughout the coastal line by performing close(leak-proof) patrolling.

Aspects of the threat from the North by the sea have had a critical influence on the process of naval development in South Korea. From the early 1960s, the ROKN has had to combat two major threats from the North, the kidnapping of fishing boats at gun-point and, espionage. According to its guerrilla warfare tactics, the North, with the advantage of its fast gunboats, has attempted to dispatch armed or unarmed groups into the South. The Korean Navy, to meet both threats effectively, has had to focus on building up a fleet of fast attack gunboats and corvettes. Additionally,

the Korean Navy was organised into a four-division system in which each division was totally responsible for all incidents in its specific operational area.[4] This reshaping of the navy structure was a crucial factor in ossifying the characteristics of the Korean Navy as defensive and and confined to inshore patrolling.

Besides the threats generated by the North, the navy posture of the South has also been affected by the characteristics of the North Korean Navy. This seems natural, since strategic thought in the South has been to face the Northern counterpart in each dimension: army to army, air force to air force and navy to navy. Influenced by the Soviet and Chinese navies whose prime function was providing coastal guard[5], the strategic scope of the North Korean Navy remains in an inshore force. Currently, the North Korean Navy comprises of mainly three kinds of warships: submarines, fast attack craft(missile, torpedo, gun) and amphibious ships. All of these capabilities are mainly for tactical operations around the Korean peninsula, and not for strategic bluewater operations. This typifies the basic structure of the North Korean Navy as a traditional land-power navy.[6]

Therefore, the South Korean Navy was not keen to stretch out to the blue sea and has remained in the coastal line as has its northern counterpart. This suggests that the South Korean Navy would mature into an ocean-going sea power should the North build a bluewater fleet.

The insignificance of the volume of the North's sea-borne trade can be counted as a non-military contributory factor. This has meant that there has been virtually no need for South Korea to build up naval capacity strong enough to cut the sea lines of communication (SLOC) of the North. Had the North depended for its national security and prosperity on sea-borne trade, the sea control capacity of the ROKN would be different from the current level, and presumably far stronger than at present.

The second external element that has affected the fundamental fabric of the ROKN is the United States. After the Korean War the United States' policy of rearmament of South Korea focused on reconstructing the army force. The underlying rationality of this policy was that ground warfare would determine the success of a fight-back, should war occur again in the Peninsula. Additionally the United States' will to keep its navy as the only unchallengeable fleet on the surrounding seas did not render its allies to develop navies with substantial power projection capabilities.[7]

Because of this US military policy on the Korean peninsula, and of the high cost of developing a high sea's navy, the ROKN deferred its potential role on the high seas to the USN's Seventh Fleet whose headquarters is located in its neighbour, Japan), remaining satisfied with having a coastal navy.[8] Among the missions of the USN Seventh Fleet, covering the Korean peninsula as its operational area, two have particular relevance to the security of Korea: supporting the ROK-US joint force in the Korean peninsula, and protecting the SLOCs of Japan.[9] The first mission means the South, if necessary, would be protected by the US Pacific Fleet offering reliable sea-control around the Peninsula[10] while the latter role is also vital for South Korea's national security, since her SLOCs are almost the same as those of Japan. These two missions of the Seventh Fleet are crucial for the national security of South Korea, and Seoul would be forced to build up its sea-control power if there were no such security guarantee from the US.

In addition to these external factors, there are also several internal reasons, which have contributed to the present structure of the Korean Navy.

Firstly, military rule for more than 30 years in Korea has influenced the overall shape of the Korean military force. From 1961 to the early part of 1993, Korea had been ruled by Presidents, who were previously, Generals in the army. Further more, key positions both in the military

and the Cabinet such as Minister of National Defence and Chairman of the Joint Chief of Staff were occupied senior army officers. This factor, coupled with other external elements mentioned above, reinforced the development of an army-centred defence posture and consequently weakened the voice of the navy in the process of strategic defence policy-making, resulting in a relatively small navy.

The second domestic reason was the lack of an established maritime strategy in Korea. This meant that neither the government nor the elites in the navy had a firm stance on 'how to use the sea' or 'how to develop the navy.' Under the army-dominated military regime and constant threat from the North, the ROKN has been given little opportunity to set up a long-term development strategy and consequently has developed without firm strategic direction. Rather it has developed according to the on-the-spot needs determined mainly by the characteristics of the threat from the North.

The ROKN in the 2000s

Despite the various reasons that limited the ROKN to a defensive coastal navy, the South Korean Navy is now showing its willingness to discard the label. As a guide for its role in the future, the ROKN has outlined four missions. As 'the heart-part of the sea power to strengthen national security,' it aims to:

- deter war through building up sufficient power of its own,
- secure victory through assured sea-control in certain occasions,
- promote the national interests through protecting sea resources, and
- enhance the national prestige through naval presence.[11]

These missions clearly indicate that the Korean Navy understands itself as a part of the total sea power[12] of its nation. This means, that the ROKN sees naval power as a significant component in the overall context of maritime strategy, which has long been the case of the strategic view of ocean states. Hence the Korean Navy will pursue the status of a sea-power navy as represented by its capacity for sea-control and strong power projection ashore. In addition, these missions of deterring war and securing victory by naval force are impossible without being backed up by sufficient naval power, which can impose unacceptable damage on the enemy. What is not to be overlooked in this point is the fact that Seoul has shown keen interest in the policy of, so called, 'Korean Defence in Korean Hands.' Based of this policy the Korean Navy would try to build up its own capacity to a point where it could no longer be classified as a coastal navy only.

Besides this orientation in principle, several strategic changes around and inside the Korean peninsula require the ROKN to broaden its role-radius further than it has done so far.

Firstly, there has been growing interest in marine resources and ocean security worldwide. The interest in sea resources is associated with the fact that the sea is a rich source of food and energy that remains relatively untouched, whilst ocean security is about keeping supply and communication lines across the world's oceans open to all. Reflecting on these matters countries have tended in the more recent past to declare 200 mile exclusive economic zones (EEZ), to protect these resources for national use. In a military sense, the extended territory (200 mile EEZ) has meant more demand for patrol and surveillance, while the growing significance of sea resources represents both increased possibility of conflict among states over resources and water-boundaries as well as heightened demand for a naval force to confront manage such conflict. To meet these increasing military roles at sea, Korea, like other countries facing the same needs, has little choice but to strengthen its naval power. The Korean government has been searching for oil and gas on the continental shelf around the Peninsula,

especially with Japan on the South Shelf area. Additionally, the territorial dispute with Japan over the Dok-do(Takeshima) has yet to be settled. Secondly, the security map around the Korean peninsula has significantly changed since the collapse of the Cold War system. One consequence brought about by the end of the Soviet Empire, is an asymmetry in the sea power balance. The US has become predominant again on the ocean. Meanwhile, however, China and Japan are widely believed to be trying to get the asymmetry back into a symmetry, by replacing the former Soviet' s position in the symmetry, with themselves. China has shown a strong inclination towards an aircraft-carrier capability with reports of buying one from the Ukraine[13] and was allegedly reported as willingly to build its own.[14] In respect to Japan, there is no doubt that it will expedite its rearmament with the support from the US, which is seeking a extended role for Japan in the Pacific region, whether it be economically or militarily, implicitly or explicitly. Any substantial development of a naval force in either country would lead to a counter build-up in Korea, which is very likely to end in a 'spiral-up' arms-race after all.[15] Having had unpleasant experiences with both states in the past, Korea will keep a suspicious eye on the growth of the navy in both countries, and which may give good excuse for its own development.

Thirdly, the Pacific economic bloc is growing fast. This bloc, which includes the US, Japan, Korea and other rapidly growing states is often described as the power-house of the world economy. In 1991, Korea imported from, and exported to, the region more than 70% of its total trade volume.[16] Unlike the Europe bloc, sea-borne transportation is the prime means of trade in the Pacific. Thus, depending heavily on the seaborne trade, Korea will need a wider and more sensitive communication network over the oceans, which will widen the operational scope of the navy.[17]

Fourthly, it is widely observed that the US is cutting down the size of the Seventh Fleet and of the American forces in Korea to lessen the economic burden of defence.[18] Recently the US announced its new plan to establish a multilateral forum in the Asia-Pacific region.[19] This proposal suggests that the US is ready, either sincerely or cosmetically, to sit around the table to talk about arms-reduction, especially naval force reduction, which in the past it has opposed firmly for one reason or another. The plan to scale down the US troops on the Korean peninsula, although suspended temporarily by the nuclear issue of the North,[20] will also go ahead slowly but steadily.[21]

These two on-going changes will underpin Korea's doctrine of self defence (Korean defence in Koreans' Hands). Eventually the policy will put stress on the rapid build-up of the navy, since it has been given little priority and relatively little capability in the past due to US presence in and near the Peninsula.

Fifthly, there is growing interest in a collective security system in the Asia-Pacific region. Already participating in the two regional joint manoeuvres, RIMPAC and PACEX, the ROKN is expected to play a greater role in the Asia-Pacific region as an independent component, as this serves the common interests of collective security in the region. The US is asking both Korea and Japan to take on more of the defence-burden in the region while Japan is trying to consolidate the triangular cooperate system, involving Korea, the US and itself, on the sea. The Commander of the Manoeuvre Division of the ROKN, Ung Yoon, has noted that the Korean Navy will, with other South-East Asian countries, actively participate in other kinds of joint manoeuvres, targeting regional sea-control by joint forces.[22]

In order to set up a joint sea-control structure with the US and Japan, or to participate and play a substantial role in joint operations, it is essential for Korea to reinforce its navy's qualitative strength up to the same standard of the other states, especially of the US and Japan. This demand will push the ROKN into a more advanced stage

both in quality and capability .

Additionally, several internal factors are a driving force in the growth of the Korean navy.

Firstly, with the relatively improved strategic circumstances around the Korean peninsula the South's defence policy is focusing on the post-unification defence strategy.[23] In 1992, after the Security Consultative Meeting (SCM) Korea and the US agreed on launching new research for a 'new defence policy' in the Korean peninsula, which was referred to as 'the post unification defence strategy' by a high official of the Korean Ministry of National Defence. Undeniably the post-unification strategy is to meet the security needs after the reunification when Korea is surrounded by four great powers, the US, Russia, China and Japan. To be prepared for that new security environment Korea is reinforcing her air and naval forces under the scheme of achieving 'an appropriately balanced force structure.' Known as the *Big 5 tasks* for military reform it will embrace:

- delivering more detail about the defence budget,
- consolidating the procedure of the budget-allocating system for strengthening war potential,
- simplifying the upper command-structure,
- achieving the appropriately balanced force structure, and
- converting the current military structure into a technology-leading force structure.[24]

Taking the long-term aspect of naval planning into account, it is obvious that Korea will launch (if it has not already started), its new navy program in the near future.

Secondly, the Korean economy has been booming with a high annual growth rate. During 1988-1991, the average GNP-growth rate of Korea was 9.2%, which enabled an expanding volume of defence expenditure. Even though the military expenditure rate as a percentage of GNP has declined since 1983, the absolute amount is increasing due to a bigger GNP year after year.[25]

This enlarging economy will strengthen Korea's maritime power in the non-military sector[26] and help pay the high cost required for a naval build-up.

Thirdly, the return to civilian rule in Korea should also facilitate naval expansion. Naval strategic considerations should get a higher profile, and momentum for a stronger navy may increase under the neutral figures in the government and the military.

Finally, the development of defence industry in Korea will be another thrust for naval growth. From the late of 1970s, Korea, having developed a defence industry with enthusiasm under the slogan of 'self-defence,' started to build its own warships. In 1992 the ROKN launched the first domestically built submarine with a displacement of 1,200 tons, which is being emphasised as one of the most significant developments in the defence industry. The development of the defence industry and the technical advance in this field will extend Korea' s scope for independent naval build-up.

Restrictions and requirements in the future development

Despite all these forward-pushing internal and external factors, there are also several factors which may affect the future development of Korean Navy. Firstly, the US, still having significant influence on defence issues in the Korean peninsula, will not welcome fast rearmament of the ROKN, noting it adversity to any extrusive arms build-up in North East Asia. Presumably, the US would accept Korea's naval development, as long as it is a moderate, closely-monitored growth.

Secondly, Korea is in a position in which it should restrain itself from provoking its neighbouring countries (including North Korea), by a too rapid military build-up. Aware of the significance of its neighbours' role in the reunification process, it is an imperative for Korea to keep

friendly ties and strengthen its economic cooperation with neighbouring states. In particularly, Seoul may well not take the risk of pricking the volatile North for the sake of an expanded naval capability.

Thirdly, military rule over three decades in Korea has caused anti-military sentiment among the Korean people. The Korean people would firmly oppose any proposal for extraordinary expansion of the military budget, especially if not justified by plausible security reasons.

Among these restrictions, the second has particular importance to Korea's defence planning in the future. In the process toward the national unification, Korea will certainly benefit from the maintenance of a neighbourly relationship with North Korea and a stable regional environment, but neither from hostile confrontation with the North nor from regional instability. A rapid and offensive naval build-up, would make the latter two undesirable situations very likely. Furthermore, in the uniting process and even after the unification, the South will suffer from an enormous economic burden, in reviving the long-staggering North Korean economy and in keeping its nation building as a united nation state in a proper shape.

In respect to this interlocking functional relation between the unification and its strategic requirements, it will not be easy for Korea to enhance its naval power to meet the new strategic demand. Naval expansion has some strong strategic justification, but at the same time Korea faces significant risk ahead if it pursues an unpremeditated naval growth.

Any naval build-up in the South should satisfy at least two conditions. It must be both non-provocative and cost-effective. From this point, several sub-requisites derive. Firstly, Korea ought to focus on defensive naval build-up. This is an inevitable requirement for a less-risk-taking development. It includes reinforcing coastal defence and the trade protection capability but apparently excludes enhancing offensive capacity. In detail, the defensive build-up refers to constructing strong land-based coastal defence capacity to deny any sea-to-land attack, a highly sophisticated surveillance and communication network for an early-detection of an enemy's offensive move and effective anti-submarine warfare capacity.

Secondly, Korea should pursue a qualitative rather than quantitative growth. Reinforcing the qualitative edge can bring about substantial improvement of overall capacity, while often seeming less-provocative.

Thirdly, Korea's naval build-up should be passive. This suggests not only that future development be limited to the minimum required to meet new security needs but also, that Korea keep its pace behind its neighbours.

Lastly, naval development should have positive effect on regional stability. It is clear that however a significant naval growth Korea may achieve, it would not be sufficient to offset the strategic disadvantage and the cost that Korea may suffer in a fluctuating regional environment. Thus, the naval build-up should be carried out with the imperative of promoting a solid regional order, and be flexible enough, if necessary, to give way to the promotion of strategic stability in the region.

Conclusion

Facing shifting strategic circumstances and being required to extend its role for both national security and regional stability, the ROKN is looking at expanding its role from a coastal navy to one of a regional sea power.[27] It has also been suggested that been a regional naval power is appropriate for the ROKN during the 2000s, having enough strength to control the maritime approaches to the Korean peninsula. In addition, Korean naval strategists insist that the ROKN in the future must be able to play a substantial role in the area of sea-control, which if necessary, would be carried out jointly with allies.

With improved national prestige brought mainly by its economic development, the Korean people may embrace the Spykman's theory of 'Rimland,' which puts great geo-political importance on a peninsula, as a theoretical basis for further growth. Korea will keep its nation building through strengthening its overall power-political, economic, diplomatic, cultural and military capacity.

Since the development of a naval force is a 'lengthy, continuous, cost consuming and future-bound'[28] process, a state intending to increase its naval power needs certain circumstances in which all conditions fit the special features of naval a build-up. Several strategic developments within and around the Korean peninsula are giving Korea such circumstances to strengthen its maritime force. The ROKN may take the opportunity and build up its capacity faster than ever before. There are, however, several internal and external negative factors such as the reunification mission which would be seriously disadvantaged by a regional arms race that a rapid naval build-up may cause. Therefore Korea may take the middle road: faster than average incrementalism, but not with such speed that its neighbours may be provoked. The middle approach, for the sake of achieving an advantageous pre - and - post-unification environment, may well have the characteristics of being defensive, qualitative, passive and cooperative.

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Notes

1. In this paper the term 'South Korea(n)' is used interchangeably with 'Korea(n), also 'Korean Navy' with 'ROKN(Republic of Korea Navy)'.
2. Michael A. Morris, *Expansion of Third World Navies*, London, 1987: 25 and 265. Morris classifies the South Korean Navy as an 'adjacent force projection navy', characterised by its strong capacity for coastal defence and power projection in the adjacent sea . Also see, Jong-Ki Kim, *2000 nyundaerul hyanghan Hankookeu haekunryuk baljun (Korean Navy toward the 2000s)*, Seoul, 1991.
3. The proportion of army in both Koreas is more than 85% in terms of personnel strengths of their respective defence forces. IISS, *The Military Balance 1991 - 1992*: 167-169.
4. For the detailed history of modern South Korean navy, see, Haekun-Bonboo(Navy Headquarters), *Haekun 30nyunsa(History of Navy during past 30 Years)*, Seoul, 1978.
5. The Soviet Union and China shifted their maritime strategy from 'a coastal defence navy' into ocean-going navy in late 1960s and 1970s respectively. The North Korean Navy, though, inherited the idea of 'a coastal defence' navy from the two during its embryonic period. See Jong-Ki Kim: 50.
6. Morris puts the North Korean Navy in the same category of 'Adjacent Force Projection Navies': 265.
7. *Dong-A Il-Bo*(newspaper), Seoul, 10/14, 1992: 3, and also for the USN's strategy in the Pacific region, see, Andrew Mack, 'Arms Control In Pacific: The Naval Dimension', *Peace Research Centre, Working Paper No. 88*, ANU, Canberra, 1990.
8. Yong-Ok Park, '90nyundae yhu Dojunjuk Junryak Sangwhangkwa Hankook Haekunryuk (Korean Navy in the challenging strategic circumstances after 90s)', *Kookbang-yunku(Defence Research)*, Vol.29, No.2, The Graduate School of National Defence, Seoul, 1986, and also Jong-Ki Kim: 9.
9. Jong-Ki Kim: 21.
10. During the Seoul Olympics, the 7th Fleet provided a similar function, *Cho-Sun Il-Bo*(newspaper), 9/9, 1988: 4.
11. Haekun-Bonbu(Navy Headquarters), *Sakwaneu DeungDae(Pharos of officers)*, Seoul, 1988: 24 -25.
12. The ROKN understands 'sea power' as 'a state's power to control and use the sea'. This perception is similar to Admiral Gorshkov's broad concept of sea power. See, HaekunDaeHak(Navy College), *Haekunryuk(naval power)*, Seoul, 1988: 14, and Hedley Bull, 'Sea power and Political Influence', Jonathan Alford (ed), *Sea power and Influence: Old Issues and New Challenges*, 1980: 3.
13. *The Sydney Morning Herald*, Sydney, 3 January, 1993: 1.
14. *The South China Morning Post*, 3 March, 1993.
15. Gerald Segal, 'North East Asia: common security or a la carte?', *International Affairs*, Vol.67, No.4 1991: 755 - 767.
16. Korea Exchange Bank, *Quarterly Review*, February, 1992, Vol.26, No.1: 9 -10.
17. This means that Korea will try to improve especially its surveillance system up to that the standard of Japan whose navy is providing a critical role to protect SLOCs. For this, Korea may purchase Aegis weapon systems, P3C or P7A patrol aircraft, anti-submarine helicopter and

reinforce communication capacity at sea(on, under, and above the water) to set up an integrated communication network including satellite surveillance and communications.

18. Andrew Mack: 8-10.
19. *The Sydney Morning Herald*, 3 February, 1993: 9.
20. *Dong-A Il-Bo*, 10 September, 1992: 1.
21. William J. Taylor,Jr. and Michael J. Mazarr,'ROK-US Security Relations: Maintaining Ties When the Troops Leave', *Korea and World Affairs*, Summer, 1989: 265-272.
22. *Dong-A Il-Bo*, 14 October, 1992: 8.
23. ibid.
24. *Dong-A Il-Bo*, 3 April, 1993: 1.
25. *Quarterly Review*: 4, and also US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers 1989*, Washington, 1990: 53.
26. For example, due to increasing trade volumne, korea will have a greater tonnage of merchant ships as a total.
27. Jong-Ki Kim: 49.
28. ibid.

Table 1. South - North Naval Balance

	South Korea	North Korea
Submarines	4	24
Destroyers	9	3
Frigates	26	-
Missile Patrol Craft	11	36
Patrol Combatants	72	157
Torpedo Craft	-	173
Amphibious	50	131
Minesweepers	8	29
Other	44	177
Total	224	706

Source: Military Balance 1991 - 1992, Jane's Fighting Ships 1992 - 1993, The Ministry of National Defense, *The Defense White Paper 1992.*

Table 2. South-North Balance in GNP. (Government Expenditure and Military Expenditure (unit: $US Billion)

Year		83	86	87	88	89	91
	GNP	105.4	135.2	151.5	68.9	211.3	280.8
South Korea	GE	20.8	23.7	26.1	28.6	32.9	42.8
	ME	5.8	6.5	6.6	7.2	9.3	10.6
	ME/GNP(%)	5.5	4.8	4.4	4.3	4.4	3.8
	ME/GE(%)	27.9	27.5	25.5	25.2	28.3	24.8
	GNP	28.5	29.0	29.1	29.2	21.1	22.9
North Korea	GE	NA	13.6	14.2	14.4	14.7	17.2
	ME	5.7	5.8	5.8	5.8	4.4	5.1
	ME/GNP(%)	20.0	20.0	20.0	20.0	21.5	22.4
	ME/GE(%)	NA	42.2	40.9	40.7	30.0	29.7

Source: United States Arms Control and Disarmament Agency, *World Military Expenditure and Arms Transfers 1989.* National Unification Board, Korea.

NAVAL TELECOMMUNICATIONS - MISSING THE MESSAGE?

Ian Pfennigwerth

"Make a signal!" the Force Commander's crisp command rang out. A flurry of activity ensued, with much consulting of manuals, coding of instructions, and shouted orders. Soon, an assemblage of brightly coloured flags was hoisted to the yardarm, hopefully in the correct order and sequence. On board ships in company all eyes were turned upon the display of bunting now flying in the senior officer's ship, and signal staffs began deciphering the individual flags and then translating the groups into meaning to be conveyed to their commanding officers. On flag decks throughout the force sailors scurried to replicate the senior officer's signal, hauling their hoists first to the dipped position and then, when the instruction had been understood by the Officer of the Watch, hoisting them close up.

The Force Commander observed this activity with some impatience, as his own signal staff studied each of the subordinate ships' hoists to ensure that the original signal had been repeated correctly. Finally when all was in readiness the executive command was given, flag decks became bright with bunting as the hoists were hauled down, and the force commenced the manoeuvre.

Now, does the above description refer to a scene in Nelson's fleet before Trafalgar, the Grand Fleet at Jutland, Halsey's battleships at Leyte, or the Australian Fleet off Jervis Bay in 1993? If you answered "All four" then you are right. I use this illustration to introduce the contention of this article, namely that naval communications have lagged behind the available technology to the point that they detract from operational effectiveness.

Yet it was not always so. When I was a young seaman officer one had to declare a preferred sub-specialisation very early in one's career. As the RAN of those days was primarily an Anti-Submarine Warfare (ASW) force, and Torpedo Anti-Submarine (TAS) officers were its stars I, like all red-blooded warriors, chose TAS as my first preference. Then, as all the Admirals seemed to be Gunnery (G) specialists, I added G as my second choice. In conformity with ancient custom, my preferences were ignored by an omniscient Director of Naval Officers' Postings (DNOP) - *your career is safe in our hands* - and I found myself Communications Officer of HMAS *Yarra* in an unwelcome and unwanted deviation from the career I had planned for myself.

I really hate to admit it but DNOP did me a favour. The facts were that our *sub busters* were struggling to stay in touch in a battle where, even then, the enemy was gaining the technological edge. Their Commanding Officers, no doubt mindful of their own career prospects, gave TAS officers a very hard time of it. Of course, they did not give Communicators much leeway either, but then they could usually be blinded by science. Mention of *atmospherics*, *sporadic E*, or *megacycles* (it was 1964) usually succeeded in shifting the odium of blame. My senior officers knew (or thought they knew) a great deal about sinking submarines, but Communications was the blackest of black arts to all but a very few. Things that went bang were important in their scheme of things; communications came a distant second.

While it was useful to be able to shelter behind their ignorance, my decision to become a professional communicator was taken for higher motives. Communications offered the exciting prospect of working in an area close to the leading edge of emerging technology, a description never seriously applied to ASW or Gunnery. And *Comms* was setting the technological pace in those days. I recall the early trials on intelligent High Frequency (HF) using

the new (then) single sideband mode of transmission, and the introduction of *Frequency Modulated* Very High Frequency (VHF), which changed forever our perception of reception quality. Perhaps the greatest technological leap was Project *AUTOSEC*, which gave the RAN one of the best secure communications systems then operating in the world, and which has served our Navy extremely well for more than 25 years.

My Long Communications Course in the United Kingdom brought me into contact with a fair number of languid, silk handkerchiefed upper-class twits, but the faculty also contained a goodly share of talented and visionary officers as well. Down the hill at HMS *Vernon* the TAS team were learning about Captain Walker of WW2 fame, and at Whale Island the Gunners were training to stand in straight lines and to shout loudly. I never discovered how the Navigators filled in their time at *Dryad*, and I still do not understand what it is they actually do, but at *Mercury* we were studying satellite technology, data theory and Boolean Algebra.

My later postings (generally - there were exceptions!) continued to expose me to advanced technology and concepts. I was present at the US Navy's Telecommunications Command when the first of the *FLTSATCOM* spacecraft was switched on, and I was in the loop when the first discussions on automated command systems (not NCDS) took place. My frequent visits to and dealings with the staff at Defence Science and Technology Organisation, Salisbury, kept me up to date on what was happening in the world of telecommunications, and during my Electronic Warfare and Intelligence days we often raised tasks which exploited advanced concepts, and which required the boffins to force back the frontiers of science a bit further.

Not that any of us should be ignorant of the possibilities of modern telecommunications and information technology nor unaware of the impact, which it has had upon our daily lives. We routinely talk to our bank accounts through ATMs or EFTPOS terminals, accept the use of mobile phones as normal (and some senior officers would not be seen dead without one!), demand instantaneous access to current and sporting events happening anywhere in the world (and in colour at that), and expect that when we pick up our home telephones we will be connected directly with any other subscriber in the world whom we might wish to call.

That being the case, why is the RAN still using signal flags, Morse code, flashing lights, off-line encryption, paper roll teleprinters and low data rate transmissions? In an age when every decrepit Flag of Convenience floating coffin has two way, broadband satellite communications facilities, why is the RAN swapping its meagre stock of equipment from ship to ship. Why are we bumming channels on somebody else's satellite to support our operational communications? When a cheapie facsimile machine connected to your telephone line can send and receive data at 9.6 kBps, why is it that the RAN finds 2.4 kBps daring?

If you have not asked yourself these questions, then you have been remiss. Unequivocally, our Navy's telecommunications are not as they could be nor, I would argue, as they should be. As for the reasons why this state of affairs has developed, I advance the following tentative list:

- lack of commitment by senior officers,
- exclusivity amongst communicators,
- loss of contact with the real world,
- the tyranny of interoperability,
- failure to appreciate the place of Communications in operational priorities, and
- loss of opportunities.

Now, before I begin to expound on these issues, I wish all to know that I recognise that my efforts over twenty five years to improve Navy's communications services were not noticeably successful. You will note

that I use the pronoun *we* in apportioning the blame.

Lack of Commitment By Senior Officers

In the trade I now ply - encouraging and assisting Australian manufacturers into Asia - there is one principal commandment: embarking on exporting is pointless unless the Board is committed to that course of action and the Chief Executive Officer acts as its champion. On reflection I find that this is true of many activities, including the provision of communications services for the RAN.

I look forward to being corrected, but I cannot recall any Chief of Naval Staff (CNS) who wholeheartedly supported the revamping and modernisation of naval communications, and who persuaded and led his Naval Board or Advisory Committee to make a firm commitment to the achievement of that goal. On the other hand, I distinctly remember the many occasions on which funding requests for communications equipment and services were cut, delayed or cancelled. One CNS, who shall be nameless, uttered words to the effect that too much money was being spent on communications to the detriment of other demands on the budget. One wonders how he reached this conclusion; certainly the current situation does not bear out this view.

Now, it is all very well to sling off at our senior officers, but they are only as good as the advice they receive (and decide to accept). As late as 1982 we find the Chiefs of Staff Committee (COSC) asserting that satellite communications had nothing to offer the Australian Defence Force (ADF) - shades of the Edwardian views on the military utility of aircraft and submarines!. One can only comment that the Chiefs have learned a lot in the last ten years. Nevertheless, this remarkable conclusion was reached at a time when the RAN had piggy-backed a proportion of its long-haul circuits onto the USN *FLTSATCOM*, and had recently placed orders for a new range of satellite-capable communications equipment. What contribution did the CNS of the day make at that meeting?

As early as 1975 the RAN had an articulate and well argued Communications Master Plan which took our Navy into the 21st Century. Recent excitement over the much vaunted *Copernicus Architecture* released by the USN brought wry smiles to the faces of those who had proposed a similar concept for the RAN 15 years previously. But our plan was pushed aside by other concerns, and we must now scramble (and beg/borrow) to keep up. The commitment was not there at the top.

Exclusivity Amongst Communicators

I expect that my remarks under this heading will further shrink my already short list of Communicator friends, but I would ask those offended by what I have to say to give some thought to the message, perhaps in the calm which follows the scribbling and posting of the poison-pen letters.

In any field of human endeavour there is a compelling, but resistible, attraction for practitioners to adopt the view that they are an elite group. Elites do exist, but most professional groups fall short of qualifying for that title. Unfortunately, from my perspective, naval communicators have perceived themselves to be special and, sometimes, just a little bit superior.

It is not difficult to see how this perception might have arisen. Naval communications, particularly those at a tactical level, are different and the connection of mobile platforms with shore-based systems under the testing circumstances of maritime warfare imposes special disciplines upon those who must design, engineer and operate those systems. It does not help when much of the equipment provided is sub-optimal from a technological viewpoint. Maintaining connectivity is a significant achievement, infrequently recognised by the users, and successful practitioners have a perfect right to feel part of a select group.

However, it is a question of motes and beams in eyes. We are able to identify and deprecate the exclusivity factor as it affects our

aviation and submarine colleagues, without being able to see how it shapes our own attitudes. It is a privilege to be a Communicator, but the sense of that privilege is not in the skill itself but in being able to offer and apply that skill in the service of a team. I suggest that we have tended to stand a little aloof from the team, a position not calculated to endear Communicators or communications to the other players.

This is serious enough, but exclusivity has also, in my view, bred an introspection which has influenced Communicators' professional thinking. Let me offer a small example. If I wanted to engender a sense of excitement and forward-thinking in new recruits to the Communications fold I would confront them with a dazzling array of technological advancement from the moment they entered the portals of our school. I helped with the preliminary design for the high-priority new school during my term as an instructor in 1969/70 (the day I joined Neil Armstrong walked on the Moon, and we all witnessed what good communications could deliver). I paid my first and only visit to the nearly - completed edifice in 1992. There in the foyer stood a collection of the old junk, which was obsolete even in 1969. Why? It would be tempting to dismiss this museum piece as simple whimsy if it were not for the fact that in the new *SMART* classroom (one of the few fitted out), I found a group of instructors huddled in one corner as the students, clearly at home with the technology, amazed them by demonstrating possibilities of the system, which the instructors could not have imagined.

Has tradition become a substitute for vision? Has a preoccupation with refining procedures driven out analytical capabilities? I hope not, because those who pull up the drawbridge and settle down to wait out opposition run a very clear danger of being left to wither and die.

Lack Of Contact With The Real World

In the 1950s it was possible to sustain an argument that military requirements were a powerful driving force behind the technological development of communications. Even into the 1960s there were areas of scientific endeavour in communications which owed their inspiration and funding to military demands. Today, and for many years past, I suggest, this is no longer the case. The impetus for research and development has changed from military to commercial demands, particularly from the burgeoning markets for the employment of information technology in pursuit of better business performance.

The rate of change of technology in this field is such as to make traditional Defence procurement strategies obsolete, as well as much of the equipment which Defence operates. Specifying characteristics of a system which is needed now, but which, if it is lucky, will force its way into procurement in five years time is , essentially, futile. Navy has had the experience of having to ask industry to reproduce examples of discarded technology to complete a communications project conceived over ten years ago and now, at last, tottering towards implementation. Military requirements now not only do not meet the sophistication of commercial systems, but they also do not claim the same importance.

Coming to terms with these new conditions has proved troublesome for many in the naval technical and professional communications world. Enormous stores of energy and effort have been expended on the development of systems which cannot compete with commercially available technology (remember *APES*?). What was required, and is more urgently required now, is that we explore ways in which commercial technology may be adapted to military use. This may call for some sacred cows to be slaughtered. *MILSPEC* may be one. So might signalmen. I believe that I was able to bring to a halt the long, intriguing and ridiculous search for a new signal projector for the RAN as one of my final acts in uniform.

We might even reopen the issue of whether Navy is best served by having

in-house communications design staff. The folk who design and build systems to service the likes of BHP or the National Australia Bank should be able to solve Navy's problems in short order. Perhaps we might attach our engineers to the systems houses who do this work. And should not our operators be exchanged out into industry to gain experience of communications systems where speed, reliability and security, as in a foreign exchange trading room, are frighteningly real demands, rather than merely objectives.

The Tyranny of Interoperability

I should start by making clear my commitment to the principle of interoperability. I have sat through enough international discussions and participated in sufficient multi-lateral maritime exercises to have gained a keen appreciation of the advantages of being able to communicate with one's allies and partners. However, like all principles, interoperability should only be applied when it is appropriate.

The key to doing so is the observation that there are no permanent allies, only permanent interests. The RAN has seemed to apply the principle as if it were a permanent interest, which has had the effect of hindering the development of maritime communications systems to support our own interests and to accommodate the circumstances of the region in which we operate. Navy is not alone in this, of course, but we should have spotted the contradiction and worked out solutions to it in advance of Defence and the other Services because of our frequent exposure to the problem of not being able to communicate fully with people who are not *Capital A* allies.

In fact, preserving interoperability has meant doing what the USN would let us get away with. I have great respect for that navy, and I am grateful for the many USN personnel who gave freely of their knowledge and experience to improve my own understanding of military communications. But I have never met any USN personnel who confused the priority order of interoperability with Allies and US interests.

There has been a change in attitude stemming from a realisation that Australia has other interests besides *ANZUS*. But this policy has been slow to produce equipment and procedures better suited to our environment. As well, the existence of *Copernicus* should convince all that the USN itself has suffered from the same technological sidelining as the RAN has experienced. Technology now offers the opportunity of freeing the concept of interoperability from the straitjacket of buying what the USN buys. We should grasp it.

Failure to Appreciate the Place of Communications in Operational Priorities

Professional communicators may regard the marriage of their craft with command and control to produce the acronym C3 as a mixed blessing. The union makes eminent sense, of course, but one wonders if it has been appropriately consummated. In these times of rapidly evolving command structures, communications rather than being an equal partner, is left scrambling to keep up with the Report writers, tripping over the wreckage of Structures Past, and becoming hopelessly entangled in the wiring of Diagrams long since discarded.

Can command and control be truly exercised without the necessary communications? The answer is a resounding "No", but the ADF seems to be trying anyway, presumably as part of the *more with less* syndrome. Why are communications frequently the last aspect to be considered when our senior officers devise new chains of command? Because we Communicators have not been effective in gaining their attention. Hitting them over the head with our message sticks has no had the same impact as other objects, such as 5" guns, have made.

One is entitled to wonder why our Admirals have not noticed these communications deficiencies for themselves. After all, exercise after exercise, war after war and, presumably, peacekeeping operation after peacekeeping operation points up communications problems. Have

these warning signs lost their capacity to generate action? Perhaps they have come to accept that, like death, taxes and wet weekends in Sydney, poor communications are amongst the certain things in life.

While repetition does tend to breed tolerance, it is not true to say that all senior officers are unaware of or even accepting of poor communications. Many seem only too aware of their deficiencies. Who has not listened to a starry-eyed Admiral, newly returned from a visit to his American counterpart, recounting the details of the cornucopia of technological riches at that gentleman's disposal, and voicing rueful recognition of the threadbare nature of his own C3 facilities ?

Still, when voting in the Board Room on dispersing the Navy's appropriations for the coming FY, the same Admiral will opt for the 5" gun or more missiles every time. Let's look at one more example. Since the first *KANGAROO* exercise in 1974 we have commissioned five FFGs, with one still to come, dispensed with an aircraft carrier and fixed wing aviation, ordered new classes of frigates and submarines, reequipped the Air Arm and built a new maritime headquarters. We are still struggling to meet one of the significant recommendations of the *K1* post exercise report, namely to fit the patrol boats with On-Line Fleet Broadcast facilities. In terms of money it is a footling project - with what the Submarine Project Director spends in one day we could fashion the terminals out of gold and precious stones - but it is an important part of the maritime strategy, which the Government has endorsed and which we are duty bound to implement. We have not achieved it yet, though.

There is a chance that it might get up before the next longest running Project in the RAN. If the new *NAVCOMMSTA* does open in 1998 it will only have been some 20 years building. Thank heavens it is a high priority!

This, I believe illustrates the classic communications dilemma. Everybody acknowledges the need for good communications but, if asked to choose between paying for *comms* gear or buying weapons, the admirals will buy the weapons. They may not be able to employ them properly because the communications channels available cannot support the volume of data they need to direct the battle, but that is far from their minds when the question is put to the vote.

And yet we all neglect communications at our peril, especially in these piping days of peace. During the 1974 Lebanon crisis I witnessed the US Secretary of Defense in voice communications with the coxswain of an LCU rather carefully edging into Beirut Harbour. Both the Secretary and the Petty Officer First Class were unsure about the kind of welcome the US would receive, and so the coxswain was acting as the eyes and ears of the US Government at a particularly delicate time. I wonder whether Senator Ray could have access to the same facilities today as his troops gingerly edge into yet another UN *protected* trouble spot? Rather more pointedly, does the Senator know whether he can?

Loss of Great Opportunities

We are frequently advised that Australia holds a privileged place in the world with respect to the quality, variety and reliability of its commercial telecommunications services. These claims are largely true; for example, many of the services enjoyed by commercial users are superior to those available in most of the USA and Europe.

What an irony, therefore, that our military systems are not in the same league. A closer relationship with Telecom might have produced the kind of synergy, which gives rise to remarkable research and development. At the very least it would have ensured that commercial networks were fully able to support military requirements and that military communicators were better informed about and positioned to take advantage of industry technological developments.

One can only imagine the state of advancement of naval tactical

communicat-ions had the former *OTC AUSSAT* series of spacecraft been configured with support to the RAN in mind. Intelligently directed antenna beams and appropriate channel and bandwidth allocations would have transformed shore-ship-shore communications for all maritime units, and for supported land elements and headquarters. *AUSSAT B* could have been able to support all of the ADF's long haul circuits, or provided strategic redundancy. This could have been ours. As it is we must wait the implementation of the anticipated Ku band transponder service, as soon as the Chinese manage to get our satellite into orbit.

Closer interest in and involvement with the domestic telecommunications industry could have located the ADF in the forefront of modern data transfer and handling systems. This kind of technology will be introduced into ADF inventories not by communicators but by the upstart Information Technology (IT) empire, carrying and distributing information at rates in the millions of bits per second. This makes 300 baud seem strangely limiting.

In fact, their traditional disdain for *data* has proved the achilles heel of the RAN Communications community. Their world is crumbling, subsumed into the new empire of Information Systems. This too represents a lost opportunity, since studies and reports in the early 1980s demonstrated, for those who wished to seize them, the opportunities which technology, even then, was offering. The growth in IT was utterly predictable, and the new field waited only for a bold claimant to make it the basis of a new and powerful empire. The Communicators declined the offer.

Conclusion

The present unsatisfactory state of naval telecommunications has come about for a variety of reasons. Principal amongst these is, I believe, the lack of regard for communications generally throughout the Navy, but particularly in the highest echelons. Communications needs a champion in the Board Room and in the COSC.

By any objective standards our communications cannot support the demands, which our commanders wish to place upon them. This failure on their part to respect the role of communications in the C3 trinity limits the operational effectiveness of the Navy.

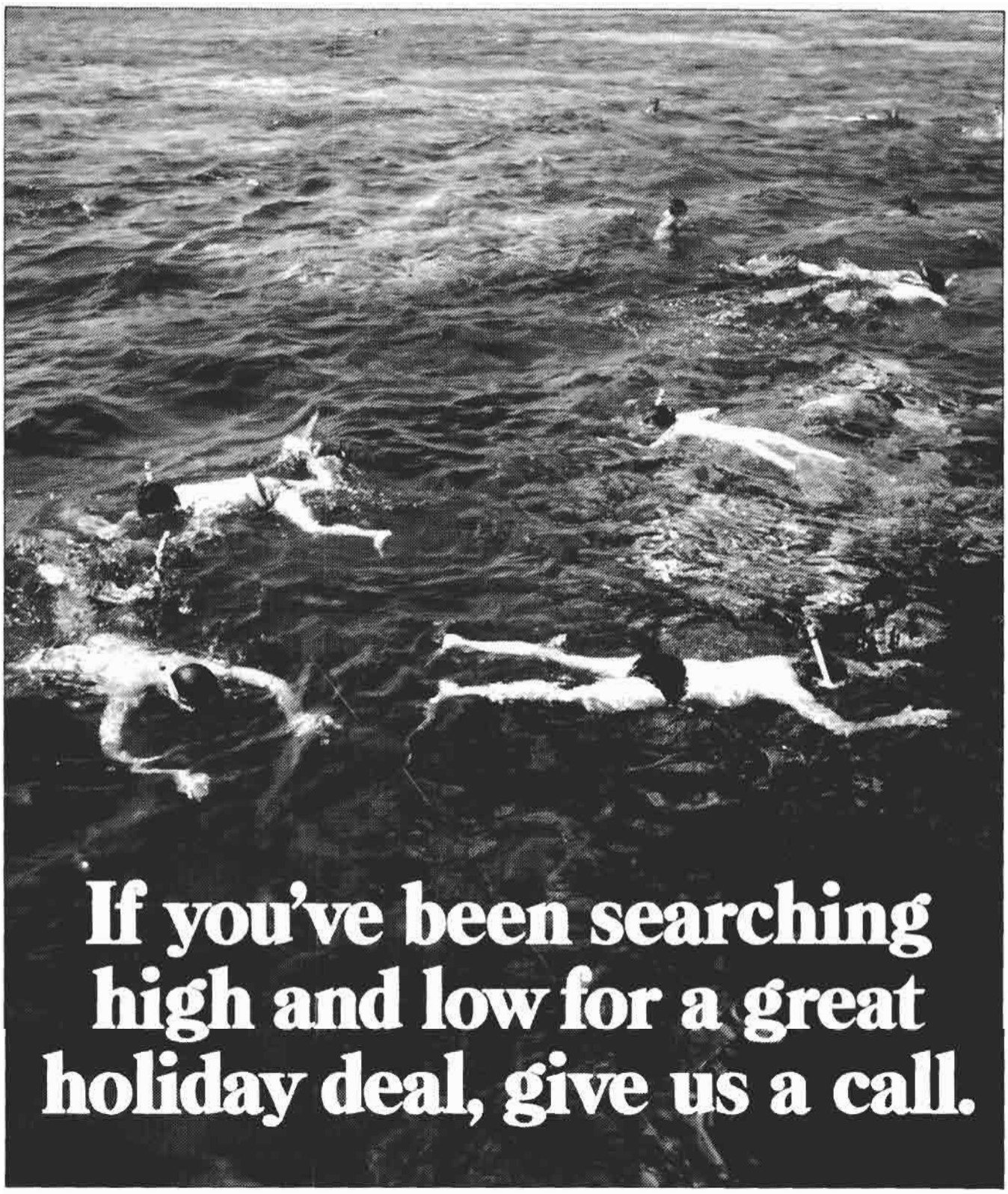
The Navy's communications professionals must also accept part of the blame. Many have worked hard and with determination to advance the cause, but some have become insular and out of touch, hoping that familiar things will somehow protect them from the headlong rush of technology. Too many opportunities to stay at the forefront of telecommunications technology have been squandered.

And to conclude let us return, this time with the Ghost of Fleet Concentration Periods To Come, to our ships manoeuvring off Jervis Bay.

The Task Group Commander ponders the tactical situation which confronts his force. At his Command decision Console he manipulates enemy data, force capabilities and readiness, and environmental factors to produce a range of options for deploying his ships and aircraft. Selecting that which most closely meets his operational plan he calls up the recommended formation on his display. Once satisfied that it represents the optimum use of resources at his disposal he depresses the *EXECUTE* key.

At Command consoles throughout the Group his ordered formation is displayed via the wideband EHF Task Group Common net within milliseconds of the Commander's decision. With courses and speeds to their assigned stations automatically calculated by combat data systems, it remains only for watch personnel to verify the safety of the recommended manoeuvre before accepting it into the Ship Control Console and for ships to begin the move to new stations.

Elapsed time - seconds. Signal staff required - nil. Technology available - now.



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THE IRISH NAVY DURING WORLD WAR TWO

Aidan McIvor

When Australia, New Zealand, Canada and other Commonwealth dominions declared war on Germany in September 1939, Eire remained conspicuously aloof. The former Irish Free State, renamed Eire in 1937, adopted a policy of neutrality. This was quite unique for a Commonwealth member state, although South Africa was tempted to adopt a similar stance. Eire's neutrality was only made possible by Britain's decision in March 1938 to unconditionally evacuate the Treaty ports, the three fortified and sheltered deep water ports in southern Ireland; Cork, Berehaven and Lough Swilly. These ports had been set aside for use by the Royal Navy under the terms of the 1921 Anglo-Irish Treaty which had granted Southern Ireland dominion status. Britain's evacuation of the ports obliged Eire to protect her own ports and territorial waters.

Although an ad hoc military Coastal Patrol Service had been set up during the Irish Civil War (1922-23), the newly independent Irish state did not allocate scare resources on developing a coastal navy. This was felt to be unnecessary especially as the Royal Navy's Southern Irish Flotilla policed the offshore waters. Consequently when war broke out in Europe in September 1939, Eire although avowedly neutral, did not possess a coastguard service, a mercantile marine or a navy. The only government owned vessel was a 1908 vintage inshore fisheries protection vessel, *Muirchu*, equipped with a single three pounder gun and solid shot.[1] Theoretically this 323 ton steam ship had to deter German U-Boats and the warships of other belligerent nations form infringing the sovereignty of Eire's 1 970 mile long coastline.

Eire's newly acquired Treaty ports were equipped with coast defence batteries which defended the entrances to the deep water harbours. The heaviest calibre guns (9.2") were supported by 6" and 4.5" guns.[2] These forts were a serious deterrent to a would be invader. It was the acquisition of the fortified Treaty ports that obliged the then Irish government to give serious consideration to establishing a coastal defence force. The need for seaward defence craft was recognised, and two motor torpedo boats were ordered from Thornycrofts in England. The 73 foot Motor Torpedo Boats (MTBs) were fast - 40 knots - agile, and armed with two 18" torpedoes, four depth charges and a single 20mm Marsden cannon[3] (on three of the MTBs) or a single Hotchkiss machine gun. These boats had originally been intended for the Estonian and Latvian navies, but Stalin's annexation of these countries had allowed them to enter Irish service in 1940.[4]

Four more MTBs were ordered for the Irish Marine and Coastwatching Service, which was established on September 3, 1939. The marine arm of this service was Eire's embryonic navy. The service was later divided into two independent branches on July 17, 1942; the Marine Service and the Coastwatching Service. In addition to the newly acquired MTBs, two inshore fishery protection vessels were commissioned into service as Public Armed Ships. They were the S/S *Muirchu* and the *Fort Rannoch* (built in 1936), a 235 ton trawler which was on lease to the Department of Agriculture and Fisheries. The *Fort Rannoch's* armament comprised a single twelve pounder gun.[5]

When France capitulated on June 22, 1940, Germany controlled the coastline of continental Europe from north of Norway to the Spanish Pyrennes. An invasion of Britain and neutral Eire seemed imminent. To face such a threat Eire's seaborne maritime defences comprised a minuscule force of very lightly armed inshore patrol vessels and three MTBs. The remaining MTBs were not delivered until 1942/43 because of Thornycroft's understandable difficulty in obtaining GLM gearboxes for the boats from their makers in

Switzerland. By October 1940, Eire's Navy acquired two more seagoing vessels; a 163 ton ad hoc minelayer S/S *Shark* (built in 1891) and a 134 ton sail training schooner (built in 1909), *Isaalt*. Both of these vessels were unarmed.[6]

In addition to Eire's small coastal fleet, Irish maritime defence was assisted by coastwatching personnel; who manned eighty-eight concrete look-out-posts along Eire's long coastline. In the main ports 1 400 volunteer naval reservists of the Maritime Inscription guarded port installations, visiting merchant ships, and patrolled harbours and bays aborad small craft. The entrances to the ports of Cork, Dublin, Limerick, Waterford and Bantry Bay were protected by coastal batteries. Minefields were laid, and in Cork a blockship was kept under steam a critical moments for violent dispersal.[7] In addition the Irish Army Air Corps operated six Avro Ansen short range maritime patrol aircraft and two Walrus seaplanes from two station near Limerick; *Foynes* and *Rineanna* (present day Shannon airport).

The German invasion of Eire code-named *FALL GRUN* (Plan Green) did not materialise[8] thanks to the formidable strength of the Royal Navy's Home Fleet and the RAF. A proposed invasion of Eire by Britain was contemplated but shelved in view of the military and diplomatic cost involved (1940 was an American Presidential election year).

Eire's retention of neutrality throughout the war was unyielding. Throughout this period the various seaborne and shoreside units of the Irish Marine and Coastwatching Service ensured Eire's coastal waters were monitored, her harbours policed and her main ports heavily fortified and guarded. When the hostilities ended in Europe in May 1945, the hard work and skill of Eire's 300 regular marine service officers and ratings was recognised. On March 15, 1946, the status of Eire's Marine Service was transformed from a *hostilities only* force into a permanent component of the peacetime Irish Defence Forces.[9]

Aidan McIvor is a freelance computer consulatant resident in London. He is a graduate of St. Malachy's College, Belfast and the London School of Economics, and is presntly working on a book on the histroy of the Irish Navy.

Notes.

1. *Irish Defence Journal*, April 1973, p.108.
2. Robert Fisk, *In Time of War*, London, 1983, p.7.
3. Lt. Col. Duggan, *A History of the Irish Army*, Dublin, 1991, p.193.
4. *Irish Defence Journal*, April, 1973, p.109.
5. *A History of the Irish Army*, p.193.
6. *Irish Defence Journal*, May 1973, p.161.
7. ibid, p.110.
8. *In Time of War*, p.190.
9. *Irish Defence Journal*, April 1973, p.111.

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Andrews, Graeme Keith, *Fighting ships of Australia, New Zealand and Oceania*

Arthur, A. J., *Notes for planning the visit to Australia in 1963 of Her Majesty The Queen and His Royal Highness The Duke of Edinburgh*

Atkinson, James J., *Australian contingents to the China field force 1900-1901*

Australian Army Staff College, *Fort Queenscliff papers*

Australia, Army, *Jungle warfare: with the Australian Army in the South West*

Australia, Army, *Khaki and green: with the Australian Army at home and overseas*

Australia, Army, *Soldiering on: the Australian Army at home and overseas*

Australia, Army. Royal Australian Corps of Signals, *Signals: story of the Australian Corps of Signals*

Australia, Army, *Stand easy*

Australia, Dept. of Defence, *Australian naval history*

Australia, Dept. of Defence, *An outline of Australian naval history*

Australia, Royal Australian Air Force. Directorate of Public Relations, *These eagles: story of the RAAF at war*

Australia, Royal Australian Air Force. Directorate of Public Relations, *Victory roll: the Royal Australian Air Force in its sixth year of war*

Australia, Royal Australian Air Force. Directorate of Public Relations, *RAAF log*

Australia, Royal Australian Air Force. Directorate of Public Relations, *RAAF saga*

Australia, Royal Australian Navy, *HMAS*

Australia, Royal Australian Navy, *HMAS Mk II*

Australia, Royal Australian Navy, *HMAS Mk III*

Australia, Royal Australian Navy, *HMAS Mk IV*

Australia, Royal Australian Navy, Naval Archives, *Outline of Australian naval history*

Australian Naval Institute, *Seapower '79: Australia and seapower; seminar papers*

Australian Naval Institute, *Seapower '81: Australia's maritime defence and its relation to industry: seminar proceedings*

Australian War Memorial, *As you were!: a cavalcade of events with the Australian Services from 1788 to 1947*

Australian War Memorial, *As you were, 1949*

Australian War Memorial, *As you were: with the Australian Services at home and overseas from 1788 to 1948*

Australian War Memorial, *As you were, 1950*

Australian War Memorial for the Military History and Information Section, AIF, *Active service with Australia in the Middle East*

Australian War Memorial for the Volunteer Defence Corps, *On guard, with the Volunteer Defence Corps*

Badger, Geoffrey Malcolm ed., *Captain Cook, navigator and scientist: papers*

Baron, Richard Laurence, *Non-technical briefs: entertainments historical, military and technological*

Bateson, Charles, *Australian shipwrecks: including vessels wrecked en route to or from Australia, and some strandings; volume one: 1622-1850*

Bateman, W. S. G. (Walter Samuel Grono) (1938-)\Ward, Marion W., jt.ed., *Australia's maritime horizons in the 1980s*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *The Story of Anzac: from the outbreak of war to the end of the first phase of the Gallipoli campaign, May 4, 1915*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *The story of Anzac: from 4 May, 1915, to the evacuation of the Gallipoli Peninsula*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *The Australian Imperial Force in France: 1916*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *The Australian Imperial Force in France: 1917*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *The Australian Imperial Force in France: during the Allied offensive, 1918*

Bean, C. E. W. (Charles Edwin Woodrow) (1879-1968), *Photographic record of the war reproductions of pictures taken by the Australian Official Photographers*

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