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# AUSTRALIAN NAVAL INSTITUTE INC

The Australian Naval Institute was formed and incorporated in the Australian Capital Territory in 1975. The main objects of the Institute are:

- 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 the authors express their own views and opinions 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.

The membership of the Institute is open to:

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## ACKNOWLEDGEMENTS

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# Journal of the Australian Naval Institute

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## SPECIAL FEATURES

**Mike McArthur looks at the complex interests driving disputes in the South China Sea, and Elizabeth Barber starts her three part series on improving *Asset Visibility* in the ADF.**



*Cover: Aerial shot of the Australia's newest major fleet unit, HMAS ANZAC which was commissioned into the RAN in May **1996**.*

## FEATURES



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# From the President

On Monday June 10th 1996 the Australian Naval Institute turned 21 years of age, having been formally incorporated on June 10th 1975 with a membership of 68 enthusiasts, including the 57 foundation members listed on the inside back cover of this and every other ANI journal ( I was a latecomer, having joined the Institute in 1978). The ANI has prospered as a wholly independent organisation. For this longevity we can begin by thanking our founding President (the Late) Commodore Vernon Parker and Commodore John 'Rocker' Robertson - and perhaps one or two tipples of port - for coming up with the need for a 'Naval Society' late one spring night in Canberra during October 1973. And if we think the current bureaucracy can drive to despair, spare a thought for the fledgling Institute's leaders who had to put up with a process which took '....In all, twenty months from conceptualisation to realisation'. In those days Ministerial approval had to be gained, honorary solicitors had to be instructed to seek formal incorporation and obscure registrars did not like the Institute's objectives and darkly intimated that the word 'naval' should be referred to the Attorney General for approval. However, by November 1975 membership had more than doubled to over 160 and today we have well over 10 times the number of original members and send our journal to a dozen countries and to numerous libraries and organisations in Australia. By all accounts our journal is a 'good read' and our Institute certainly has a lot to be proud of. In fact, one of the Institute's proudest achievements in the last few years has been the enthusiastic participation of the New Zealand Chapter which now comprises well over 100 members. From a fledgling organisation till now I think the ANI can be quite proud of its achievements.

Strong challenges for the Institute remain, but members can be assured that a lot of thought is going into strategic planning and improving administrative and financial arrangements so that the ANI can enter the next century stronger than ever. Since its inception, the Institute has been administered wholly on a volunteer basis by already busy people coordinating, planning and editing in their own time. These things may have to change in terms of getting hired help in. Details of strategies and development plans for the ANI will be given prominence in future issues of this journal. Regardless of any strategy settled upon, the moral and financial support of Institute members and the 'Friends of the Australian Naval Institute' remain the twin foundations of the Institute's success. We are grateful to the Friends we now have and who are listed in the inside front cover of this journal. In the months and years to come the ANI certainly aims to warmly welcome more Friends into the field who share its objectives.

A key Australian Naval Institute objective is promoting discussion on maritime issues, and the *Special Feature* in this issue is a comprehensive paper by Lieutenant Commander Mike McArthur on maritime tensions in the South China Sea. In his article he discusses some background to these tensions and outlines prospects for the future. For those interested in pursuing more details on maritime claims and developments in the South China Sea , an excellent article by Captain Lee Cordner appeared in Volume 20 No 2 of the journal. While the South China Sea may sometimes appear very far away to Australians, we should remember that the impact on Australia of adverse developments there can be profound for our neighbours, friends and trading partners. Therefore, improving professional knowledge of developments in the region is something to be commended in all who aspire to develop their understanding of the maritime professions in the new century.

**FOR DETAILS ON THE AUSTRALIAN NAVAL INSTITUTE 'HIT' THE ANI HOME PAGE ON www.Navy.Gov.Au/ani/home/html**

The 21st Century will bring many challenges to Australia and its neighbours. Some of these challenges will be familiar; some will be new. The familiar challenges for navies include those of keeping up with and affording technological innovations, as well as accommodating social change and expectations with appropriate personnel policies and processes. Some of the conspicuous newer challenges stem from post cold war developments. We could find ourselves in a more complex and uncertain region. These developments include our relationship with China as a major regional player, the general increase in maritime capabilities of the nations in the region and the growing economic importance of sea based resources in everything from fish to fuel and pharmaceuticals. Other challenges in the region include the pressure on governments to provide for rapidly growing populations and maintain economic growth and stability, at the same time as minimising the environmental impact. Most of these challenges and dilemmas involve often complex and subtle combinations of economic, political, cultural and historical factors that interconnect in various ways and to various extents. Once again, all those with an interest in matters maritime and regional stability will need to keep informed of the implications of developments in these areas. The Journal of the Australian Naval Institute has achieved an important place in informing its readership of these issues. This claim is certainly borne out by the content of this issue, and I encourage further debate from our members on these important matters.

Regards

*Chris Barrie*

# From the Editor

The number of international subscribers to this journal has increased markedly during the last year, and Council is delighted that volumes of JANI now grace Staff College and library bookshelves on four continents. This achievement is due to the 'own time' efforts of successive ANI Councils, the support of members and the financial contributions of a small but highly committed group of companies called the 'Friends of the Australian Naval Institute'. Without their sustained support we could not stay 'afloat' as an independent body.

The President has already mentioned the importance of keeping abreast of current issues in the region and improving professional knowledge. A very handy way to do this is to use a distance education package in defence studies. One such package that has not been left behind by technology and is geared to meet the needs of busy ADF personnel is *ADFA's Master of Defence Studies Distance Education Program*. All candidates currently enrolled are members of the ADF attached to various military establishments in Sydney, Brisbane and Townsville (Darwin and Perth are expected to come on line in 1998/99). Subjects include defence policy, strategic planning, peacekeeping, defence science and technology and operational aspects of warfare. The mode of delivery is by seminar tutorial sessions via video conferencing, print based study guides and resource material, an e-mail bulletin board discussion group, and attendance at weekend schools in Sydney and Brisbane. If you want more information on the *Master of Defence Studies Distance Education Program* , contact its administrator, Christa Savatich, at ADFA (Ph: 06 268 8207 / Fax: 06 268 8786; E-Mail: c-savatich@adfa.oz.au, or the WWW Home Page: http://www.adfa.oz.au/General/de/rtw-DISTANCE.html).

Another advert - Have you visited the ANI Library recently? Did you know of its existence? The ANI Library is located within the Campbell Park Library and there is a large range of books and a limited range of journals available to ANI members. Enquiries for borrowing books can be directed to Mrs Julie Nicholls CP2-5-B5, Canberra ACT 2600 (Ph: 06 2663035 / Fax: 06 2662556). A list of books is held by the Library Councillor, LCDR Kerry Wallis (Ph: 06 280 2809 / Fax: 06 280 2775).

This issue of JANI is my last as editor. I turned 40 recently and now, as a decrepit middle aged man with the best years of my life behind me, it is time to hand over the reigns of power! I congratulate Lieutenant Alistair Cooper of the RAN's elite Maritime Studies Program on his appointment by Council as the new editor for 1997, and I will work as his assistant on the next issue. My two 'tours' as editor in 1987/88 and 1994/96 have been memorable and valuable in terms of experience, and I thank all those on the 1993-96 ANI Councils for their full support. Thanks also go to Peter Trick and his outstanding print production team at National Capital Printers. The ANI has dealt with several printers in Canberra over the last two decades, and Peter's team at NCP are, in my opinion, the very best. Finally, a special word of thanks and praise to my wife Meryl and our five children (Mathew, Andrew, Claire, Kaye and Zoe) for the sacrifices they have made over the years.

Cheers!

*Al Hinge*

# Illumination Rounds

## Regional Engagement & Language Training

For the past ten years or so, defence policy has spoken specifically about 'regional engage ment'. Now while this term has a number of official connotations in the 1990s, building relations with our regional neighbours should come as no surprise to anyone who has spent some time in our navy since the end of the Second World War. The RAN has regularly undertaken deployments into the region since 1945, although over recent years these deployments have increasingly come to involve bilateral exercises and passex, rather than the simple 'up top' port visit.

My question to the editor and the members of the ANI is simply this - how can the RAN purport to be serious about regional engagement and developing closer defence ties with our near neighbours, when so few of our officers and sailors are formally trained in Asian languages? Do we still retain that colonial cultural superiority that encourages us to expect that the 'natives' should be the ones to learn our language? After all, even the Army have implemented a concerted program to encourage their officers to become proficient at one South-East Asian language before they reach the rank of Lieutenant Colonel.

"There's no time" I hear the cry ring out from our career managers in Building D. I think that there are two responses to that. The first is that a short course at Point Cook takes only three months, and surely we could build some elements of this course into initial officer training or staff course training further down the track. Courses could also be run using the modern distance education methods incorporating home study and residential weekends. The second response is that eventually there will come a time when such language training will have to be given priority over things like GWR - I'm thinking, of course, of times of war.

Of the three services, the navy spends comparatively the most time operating with our regional neighbours in the waters of South-East Asia and the South Pacific. Yet strangely, despite the increasing frequency of both working level and senior officer level dialogue, we lag behind our sister services in the language training of our personnel. This is a shortcoming that we need to address before it is too late.

*Son Tzoo*

## A Curious Instruction

I am intrigued by the following document (A.F.O. 1636/50) and ask readers if they can elaborate on the problems being alluded to by "Their Lordships'.

SUPPLY WORK IN THE FLEET

1. The Board of the Admiralty are fully aware of the difficulties which, since the end of the War have faced the officers and senior ratings of the Supply and Secretariat Branch, and Engineer Officers-in-Charge of Naval Stores in small ships, in their tasks of accounting for money and stores and of maintaining an acceptably high standard of victualling and cooking both for officers and men.

2. These difficulties which arise from a variety of causes attributable to the war, to the growing complexity of administration and to improvements in conditions of Service, cannot be surmounted quickly or easily; but the causes are known and remedial measures have been and are being taken wherever practicable. Progress is being made with training and the revision of the instructions governing much of the work. It is most important that the help and encouragement being given to junior ratings to fit themselves for more advanced work should be continued, as this is a major remedy.

3. This message is promulgated with the dual object of conveying some encouragement to the officers and men concerned and of informing them that full allowance is made at the Admiralty for the effects of stress when dealing with any failure or shortcoming, even though this may appear in the guise of human frailty.

Their Lordships are confident that Flag and Commanding Officers will follow the same policy in this matter.

ED. There seems to be more to this document than meets the eye. Why *exactly* did these problems arise? What were their underlying causes? Just how serious were these problems? Were they actually solved? If so, how long did it take to solve them? Did it take the outbreak of the Korean War to get Their Lordships moving on these matters? Are the lessons learned during this situation relevant to us today?

(Reference data: Enc(x) to Q.122/1/3/1 dated 29/8/50, A.F.O. 1636/50 SUPPLY WORK IN THE FLEET, N.L. 3684/49-2 Jun. 1950)

# Battle of the Komandorski Islands 1943

## The Least Decisive Naval Battle of World War Two

by

**Graham Wilson**

When we think of the Pacific Campaign of the Second World War, we think in terms of coral atolls, palm trees, sweltering heat, teeming tropical rain, jungle rot and malaria, among other things. But the war between the Japanese Empire and the Allies was not only contested in the sun drenched islands of the South Pacific. For over two years, the Americans also battled the Japanese in the frozen north Pacific in a bitter and bizarre campaign centred around the Aleutian Islands, a campaign which saw the only Japanese occupation of American soil of the war. Given the nature of the region and its climate, the campaign was at all times dominated by the maritime element.

The Japanese attacks on the Pacific Fleet base at Pearl Harbor, as well as other similar attacks mounted at the same time, forced America into the Second World War. Dragged unwillingly into a global conflict, America found itself woefully unprepared, despite some desperate last minute measures. One area of America's defences which had been terribly, in fact almost systematically neglected, was Alaska and the Aleutian Islands.

Alaska was, at the time, a territory of the United States and the Aleutian Islands were a constituent part of that territory. Stretching far out into the northern Pacific, the Aleutians consist of a chain of active and extinct volcanoes. Flat areas on the islands are composed of ice-bound volcanic ash which very quickly and very effectively turns to mud when the cover of muskeg is removed. Inland, the islands are noted for their rugged and inhospitable terrain. All of the islands are surrounded by reefs which are interlaced with fierce ocean currents, warm ones from the southern Pacific mingling with Arctic ones from the Bering Sea and adding to the already hazardous navigation conditions. Above all this hang dense fogs which are often accompanied by, though not dispersed by, 80-knot gales. Wild fierce local winds called "williwaws" shriek down from the mountains to add to the misery. With a mean annual temperature in the region of 3 degrees, winds often strike as blizzards and the local Aleut people refer to their islands as "The Birthplace of Bad Weather." Thus, while geographically the Aleutians appeared the obvious line of advance for an attack on Japan, the weather and climate effectively ruled this out. But the region could not be ignored. In the mid-war years, General Billy Mitchell, "Father of US Air Power", said 'If Japan seizes Alaska, she can take New York'. These and other pronouncements forced the US government to take a few tentative steps to strengthening their northern defences. In 1937 a US Navy manned radio and weather station was established at Dutch Harbor on the island of Unalaska and a seaplane base was laid down on the island of Sitka, close to the Alaskan mainland. Minor fleet manoeuvres were carried out in the area as well. Further westward expansion was ruled out due to a combination of the difficulties associated with construction and re-supply and a sensitivity to Japanese reaction.

With the outbreak of war, of course, all that changed, but by then it was almost too late. While the US Army hastily formed the Alaskan Defence Command and 11th Air Force and the US Navy established a Northern Pacific Fleet, at the outset, these forces were largely cosmetic with few troops and even less equipment. The "Alaskan Navy" consisted of three patrol boats and a gunboat, supplemented by some Coast Guard cutters. Later joined by a squadron of six antiquated submarines, these forces struggled to ensure the safety of units deployed to Unmak to establish a new airfield and naval base.

Typically, the Japanese had not been as reticent as the Americans during the pre-war years and had conducted many exercises in northern waters, developing procedures and equipment suitable to the extreme environment. The Japanese also knew that Mitchell's dictum could just as easily work in reverse and had decided that they could not run the risk of allowing the Americans to use the Aleutians as the shortest route to the Kuriles and thence to the Home Islands. It was for this reason, the strengthening of their outer ring of defences, that the decision was made to invade and occupy the Aleutians. On 5 May, 1942, Imperial Naval Headquarters issued orders for carrier air strikes on the US base at Dutch Harbor and assault landings on Attu, Kiska and Adak. Despite American attempts to forestall them, Japanese operations were largely successful, Dutch harbor being severely damaged by

raids on 3 June, while Attu and Kiska were successfully seized in the following week. Plans to occupy Adak where shelved due to the disastrous Japanese losses at Midway and the landing force earmarked for Adak was diverted to strengthen the garrison on Attu.

Throughout the remainder of 1942, both sides worked to strengthen their forces in the region and expended much effort in trying to ascertain what each other was up to. Both sides lost ships, aircraft and men at a steady rate, to both enemy action and the weather. The latter was also a constant source of frustration, making both sea and air operations difficult at the best of times and impossible for the rest of the time. As an example, the 11th Air Force lost 63 aircraft to the weather in a five month period, while losing only nine to enemy action in the same period.

In February, 1943, Japanese reaction, or lack of it, to American activity convinced the Americans that the farther island of Attu should be captured first. The Japanese came to the same conclusion and decided to reinforce the island. In mid-March, Vice Admiral Hosogaya, commander of the Japanese Northern Fleet, despatched a single slow transport towards Attu, escorted by one destroyer. Several days later, a fast convoy of two armed merchant cruisers (acting as transports) and a transport, sailed from the Kuriles escorted by the remainder of the Northern Fleet bound for a rendezvous off the Soviet owned Komandorski Islands near Attu. The fleet was under the personal command of Admiral Hosogaya and consisted of four cruisers, *Nachi, Maya, Tama* and *Abukuma*, and four destroyers, *Wakaba, Hatsushimo, Ikazuchi* and *Inadzuma*. Hosogaya's fifth destroyer, *Usugumo*, had been despatched earlier to escort the slow transport.

On 26 March, 1943, the two groups rendezvoused off the Komandorskis. At 0800 that day the fleet was on a norhterly heading, bound for Attu. At the same time, approximately seven nautical miles to the south and on about the same heading was an American squadron under the command of Rear Admiral Charles McMorris consisting of the cruisers Richmond (flag) and Salt Lake City and Destroyer Squadron 14 under the command of Captain Ralph Riggs and consisting of Bailey (flag), Coughlin, Dale and Monaghan. It was inevitable that the two forces would stumble on each other and the scene was set for the Battle of the Komandorskis. The battle is named after the nearest land mass, the Soviet owned Komodarski Islands, west of the Kamchatka Peninsula.

For once, the usually loathsome Bering Sea weather was near perfect, with nearly-calm seas and excellent visibility. The Japanese force was steaming in line astern with cruisers Nachi, Maya and *Tama* in the lead, followed by destroyers Wakaba and Hatsushimo, cruiser Abukuma, destroyer *Ikazuchi* transports *Asaka Maru* and *Sakito Maru* and destroyer *Inadzuma* in the rear. Destroyer *Usugumo* escorting *Sanko Maru* was steaming to join the main fleet when battle began. To the south, Admiral McMorris also had his force steaming in line astern with destroyer *Coghlan* in the lead, followed by *Richmond*, then *Bailey* and *Dale*, then *Salt Lake City*, with *Monaghan* bringing up the rear, all ships making 15 knots and zigzagging.

The two fleets sighted each other almost instantaneously. The first US sighting was by radar when, at about 0730, both *Richmond* and *Coghlan* reported radar contact on five vessels about 10 nautical miles due north. At almost the same time, lookouts aboard *Asaka Maru* sighted masts on the southern horizon, testimony to the incredible accuracy of Japanese lookouts who substituted for the radar which was all but non-existent in the Imperial Navy. As Admiral McMorris was ordering general quarters, Admiral Hosogaya also ordered action stations and directed his warships to turn southeastward and engage while the transports were to continue on course.

A comparison of the firepower available to the two admirals is useful at this point. Hosogaya had a total of 20x8in, 14x5.5in, 30x5in guns and 78 torpedo tubes, compared to the 10x8in, 10x6in, 24x5in guns and 32 torpedo tubes available to McMorris. The Japanese cruisers were also faster than *Richmond* and *Salt Lake City*. Additionally, *Salt Lake City* had only just come out of a six month repair period following damage recieved at the Battle of Cape Esperance in the Solomon Islands, had a brand new crew, almost 50% of whom were fresh out of training, and had only had a week's workup on her way north to join McMorris. No spotting planes were available to the Americans as McMorris decided to hold *Richmond*'s in reserve (she was never launched) and *Salt lake City*'s aircraft had just been defueled for maintenance. Although the Japanese did launch at least one spotter, she proved to be ineffectual and was to have no impact on the course of the battle.

Apparently both outnumbered and outgunned, Admiral McMorris would not have been criticised for withdrawing. He decided, however, on the extremely bold initiative of going after the transports while under fire, taking the sensible decision of having his flagship conform to the movements of the heavier, faster and more powerful *Salt Lake City*. Opening moves by the Americans in the direction of the tranpsorts were foiled when Hosogaya led his ships around in an effort to "cross the Americans' T".First rounds were fired by the Japanese cruiser *Nachi* at 0840, *Salt Lake City* replying at 0842. The first Japanese salvos were aimed at *Richmond* but, after the second salvo, fire was switched to *Salt Lake City* and she was to receive most of the enemy's attention throughout the battle. *Salt Lake City* scored hits on *Nachi* with her third and

*Continued page 59*

*This article won a 1995 Peter Mitchell Prize in the Officers' category*

# The Environment And Security

by

**Lieutenant Rick Leahy RAN**

The year is 2030. The United Nations (UN) is preparing to mount its first environmental mission to protect what remains of the Papua New Guinean Highlands from the ecologically destructive mass farming practices of an invading Chinese army.

There has been overwhelming pressure for the UN to act. The conflicts and humanitarian relief efforts that had absorbed its energies in the early part of the century - Bosnia, the Spratley Islands, Los Angeles and Burundi had faded into insignificance alongside the ravages humankind had wreaked upon the global ecosystem. Global warming, the result of widespread atmospheric pollution, had melted the polar ice caps. The majority of the world's famous cities of the past thousand years had joined the mythical lost city of Atlantis. The South-West Pacific, the Caribbean, the Greek Islands and much of South-East Asia were now lost to all but hardy, pollutant resistant marine life. The B-grade, 1995 Kevin Costner movie *Waterworld* now seemed faintly prophetic. Indeed, some cynics at the UN had remarked 10 years ago that the squabbling and bloodshed in the South China Seas had only stopped when the oil and gas fields became too deeply immersed for commercial exploitation.

Christian zealots spoke of a second great flood arriving to restore a sustainable population on God's earth. Indeed, population growth had peaked at 8 billion shortly before the major planetary flooding commenced. China's aggressive agricultural colonisation of neighbouring regions had commenced in 2008 when she could no longer feed her booming population, even on simple grains. The World Bank's refusal to extend further credit to China had precipitated a torrid invasion of the Philippines, and later Vietnam and the Unified States of Korea. But as industrialisation increased, so too did the living standards of greater China. With improved living standards came higher expectations and, not surprisingly, more sophisticated and demanding appetites. With more money to spend, the Chinese people spent more and ate more.

The United States was reluctant to act at first. President Colin Powell was absorbed during his first term with the racial disintegration of Los Angeles and later the surrounding states. His many advisors were keen proponents of a sort of technofaith, whereby they argued that some brilliant, creative human being could solve the problem of global warming or declining agricultural production because such problems had always been solved before in some scientific fashion. After all, they argued, men and women had begun to colonise space, the seabed now provided the second highest protein yielding supplement on the planet, and the spirit of Newton, Einstein and the Manhattan Project must win through in the end.

Similarly, world economists failed to see the writing on the wall. What should have been plain for all to see - that is, the earth and everything in, on, under and above it are finite resources. The earth could only support so many human inhabitants. They sustained the false expectation that economic growth and improved standards of living were indicators of progress. Consequently, the earth accelerated towards its destiny in an exponential fashion.

At UN headquarters in Alice Springs, Australia alongside the great inland sea, the UN Environmental Council signed a statute calling for the protection of the Kokoda grasslands in Papua New Guinea, once an imposing, rugged series of mountains, and hoped their action had not come too late.

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Such futuristic soothsaying may sound a little fantastic. But we 'mere humans' have a fairly poor record at looking into the future and predicting outcomes with any great certainty. The point that I would like to make in this paper is that environmental degradation will become an international security problem. In the short to medium term, environmental issues will not rate highly on the agenda of the UN or other international bodies. But in the longer term, unless there is a fundamental shift in the way in which as humans we utilise this planet's resources, the health or otherwise of the earth will play an increasingly significant role in the international security considerations of all nations.

This essay will examine the current and future predicted state of world population, agricultural production and natural resources before briefly analysing trends in global industrialisation and pollution, climate change and international health problems. Some examples of how these factors influence national and international security now will be discussed, before the essay concludes by suggesting how important these and other environmental issues may become in the future.

## Population, Production And Natural Resources

The internationally-renowned environmentalist Professor David Suzuki has written:

> We are in the midst of an unprecedented and catastrophic increase in human numbers, technological power and ecological destruction that cannot continue. The unsustainability of such growth is not speculation or wishful thinking, it is an inescapable consequence of living in a finite world.[1]

The world's population has grown enormously in a relatively short space of time.

There are many reasons for this sustained and dramatic growth. In simple demographic terms, people in recent years have enjoyed a comparatively high life expectancy. Infant mortality has dropped quite significantly in developing countries, while birth rates have increased dramatically. What are the consequences of such growth?

The novel *Famine 1975*[2] turned Malthusian predictions of population growth and limited arable land into a thought-provoking best-seller. Based as it was on forecasts that later saw the population of the world double between 1950 and 1988, the novel was a little inaccurate in its depiction of agricultural production. During this period of rapid population growth, the introduction of high yield cereal crops and the use of improved irrigation and fertilisation techniques in Asia, in particular, meant that wheat yields increased fivefold between 1961 and 1991.[3] Other less spectacular, but nonetheless impressive agricultural productivity improvements were noted in other regions and with other crops.

However, as highlighted by Suzuki and others, there are only so many improvements that can be made. Over-cultivation has caused a series of problems including increased soil salinity, resistance to pesticides and loss of topsoil[4] that inevitably will result in a decline in global agricultural production. Lester Brown, from the Worldwatch Institute, the authors and compilers of *Vital Signs: The trends that are shaping our future*, predicts that these factors, combined with the increasing use of farming land for industrial sites and housing estates will mean that the world will indeed reach a point where it cannot feed itself. It seems Malthus' prediction will come true ... the question is when?

Lester Brown, in an interview with the *Economist* in August 1995[5] pointed out that China was no longer self-sufficient in grain production. In the first six months of 1995, China had imported 6.4 million tons of grain compared to 3.3 million tons in the comparable period in 1994. He also pointed out that with increased industrialisation in China, a necessary development as China embarks upon a period of sustained economic growth, there are less farmers and less land available for agricultural use.[6] Most significantly, Brown predicts that China's population will reach 1.7 billion by 2030.

Environmentalists are fond of quoting statistics that tell us that each minute 20 to 40 hectares of tropical rainforest is destroyed, or that each year some 20,000 species become extinct[7], but rarely do these more emotive arguments influence the thinking of governments on security. However, all such statistics are important, because they illustrate the finite nature of all the earth's resources - from strategic reserves of oil right through to African pygmy ants.

In developed nations, an absolute faith in technology has led us to squander many resources in a 'use now, worry about the consequences later' philosophy, whereby we seem to reassure ourselves that scientists will come up with some solution to our problems. For instance, progress is measured by so-called economic performance indicators. All nations seem fixated on steady growth in consumption, wealth and profit in the misplaced belief that such growth can be sustained indefinitely. We must realise that the earth and its resources are finite. Unsustainable growth is more than destructive, it quickens the approach of the inevitable.

For instance, oil and coal production has declined in recent years as supplies of these two highly polluting energy sources are exhausted. Oil production has fallen back to 1976 levels, while coal production has slipped back to that achieved in 1987.[8]

Moving away from the primary energy sources that carried the Western world through the industrial revolution and much of the twentieth century, and turning instead towards the world's oceans: water covers 70% of the earth's surface and is a vast storehouse of many natural resources including minerals, oil and natural gas. However, fish and other marine life provide a critical protein source for many developing nations. Sadly, it appears that we have already passed the level of sustainable usage for these stocks. Pollution and overfishing have caused a decline in the fish harvest in the past two years. As just one example, Japanese and Taiwanese fisherman are estimated to set approximately 50,000 km of drift nets each night.[9] The security side of this equation has already become apparent with the Canadian Navy apprehending Spanish fisherman accused of over-fishing the waters off the coast of Canada, and ironically, the Spanish Navy are involved closer to their homeland in boarding operations against Moroccan fisherman. Although these incidents are relatively minor in comparison to current conflicts in places like Bosnia, perhaps they provide some indication of the type of operations defence forces may become involved with in the future.

In this section of the paper we have discussed the rapid growth of the world's population, its declining capacity for agricultural production and we have highlighted the absolute necessity for the sustainable use of resources in a world of finite and rapidly approaching limits. In the words of Professor Herman Daley, a senior economist with the World Bank:

> It's impossible for the entire 5.4 billion people in the world to live at a level of resource consumption per capita equal to that of the US, Canada, Western Europe ... We're already straining life support capacity, the regenerative and absorptive capacities of the ecosystem, beyond their sustainable limits.[10]

## Industrialisation, Pollution, Climate Change and International Health Problems

Economists have noted how developing nations such as India are, in many respects, going through their 'industrial revolution' now, some two hundred years later than countries like Great Britain. This is not surprising as they transition from a predominantly agricultural economy to an industrial one, and this sort of development is being mirrored to a greater or lesser extent in many developing nations.

We have already examined how increasing industrialisation tends to decrease the workforce and land available for food production. This is partially offset by the improvements brought about by increased mechanisation, however the increased pollution of the atmosphere and waterways associated with industrial development is a particular concern in developing countries. Understandably, developing nations have little patience when lectured to by developed nations - who have already gone through this process - on the more esoteric environmental considerations of biodiversity, atmospheric change and the ozone layer. The exploitation of all available resources is the prime aim of the economies of developing nations. Biodiversity, they argue, can come later.

However, increased industrialisation has a profound effect upon pollution levels. As an example, temperate forests in dozens of northern hemisphere countries are now in decline. Pollutants associated with industrialisation, namely those resulting from the burning of fossil fuels for industry, electricity and transportation, are damaging forests at an unprecedented rate. Of the 2,200,000 hectares of forest in the United Kingdom, 1991 figures estimate that 57% of this forest is permanently damaged.[11] In China, acid rain falls on 14% of the country, and in 1991 caused some $2.8 billion in damage to crops and forests. With coal combustion in China growing by 35% through the 1990s, this damage is bound to increase.[12]

The 'Greenhouse Effect' and global warning are perhaps the best-studied of all environmental conundrums, although there are no definitive studies to predict exactly what the outcome will be. In simple terms, holes in the ozone layer are conspiring to allow increased ultra-violet radiation into the earth's atmosphere. Increases in atmospheric pollution are thought to exacerbate the problem, with some scientists predicting that by 2030 global temperatures will have increased by between 1.5°C and 4.5°C. Global warming on this scale may melt the polar ice caps raising sea levels by 0.2 to 4.5 metres. In addition to inundating coastal plains and submerging island chains, a rise in the sea level would alter the world's climate further, change ocean currents and fishing grounds, and drastically reduce fresh water supplies.

The outbreak of the Ebola virus in 1994 and the spread of the HIV/AIDS virus have dominated press coverage and the public imagination in recent times. Any health issue or disease that can pose a large-scale threat to nations is an obvious security issue. The development of biological warfare agents are one case in point. As dangerous as nuclear and chemical weapons are, the world is fortunate that the widespread use of biological weapons has not been written into the pages of world history ... yet.

This section of the essay has dealt briefly with industrialisation, pollution, global warming and international health issues. Clearly, all these issues pose some sort of threat to life. Industrial disasters such as Bhopal and Chernobyl were human tragedies, but would the specific targeting or exploitation of these sort of issues ever affect national or international security?

## The Effect of Environmental Factors on Security

Leon Gordenker and Thomas G. Weiss have argued that:

> Security means many things to many people; but many of the newer sources of instability would be even more difficult, both conceptually and practically, than large-scale military violence.

If we view environmental issues as one of the 'newer sources of instability' then, in this light, the question posed at the end of the previous section should be not whether such issues would affect national/international security, but when? Clearly, these types of issues are not at the top of many nations' security agendas at the moment, but the thesis of this essay is that they soon will be.

Saddam Hussein is no stranger to environmental warfare. The torching of the oil wells in Kuwait was merely the most recent example of his exploitation of environmental issues to wage war upon his enemies. It is well-known that he had experimented with biological agents during the Iran/Iraq war and against

the Kurds, and his known biological capability was a major concern for Coalition forces during the early days of the 1990/91 Gulf conflict. Perhaps in its strictest sense, this is not really environmental war. However, Saddam's actions certainly point towards one possible stage of metamorphosis between our understanding of what threatens security in the 1990s and what will threaten security in the new century.

Perhaps international terrorism provides a clearer case in point. Although current terrorist operations centre around bomb attacks on civilian targets[13] and the assassination of public figures, the actions of the Aum Supreme Truth sect in Japan resulted in a serious rethink of what may constitute a threat to a nation's security in the near future.

Closer to home, Foreign Minister Gareth Evans, in his ministerial statement *Australia's Regional Security*, recognised the importance of environmental issues to security, arguing:

> The physical environment is under threat in South-East Asia: the destruction of tropical forests, pollution of waterways and oceans, and atmospheric pollution arising from urbanisation and industrialisation. These trends, if not checked, will impinge on Australia's environment. The threats to the environment of the South Pacific are also disturbing: deforestation and reduction in biological diversity (terrestrial and maritime) are among the problems, with global climate warming - and associated sea level rise - threatening the very existence of a number of island nations.[14]

In this sense it is important that we begin to perceive security as the result of the interaction between diplomacy and foreign relations, trade and economic development, defence and environmental protection. Australia has an important role to play in promoting security within the region and, in the environmental sphere, we can do that by setting the best example possible and by encouraging neighbouring nations to do likewise.

## CONCLUSION

Interestingly, in a wide-ranging essay entitled 'Sovereignty and Threats to Peace' the academic Oscar Schachter examines a number of threats to security that he perceives nations will face in the twenty-first century. He argues that:

> The unchecked population growth in many countries ... and the perception (and reality) of ecological damage are relatively recent phenomena that exacerbate social tension ... It is fair to say that these phenomena are indications of deeply rooted instabilities likely to produce conflict and disorder.[15]

While the apocalyptic outcome I painted 35 years into the future may not come true, it is fair to say that environmental issues - in the broadest sense - such as overpopulation, declining agricultural production and natural resources; increasing industrialisation, pollution, climate change and health issues, are beginning to have an effect on global security. While in isolation they may not lead to conflict in the 1990s, they are certainly becoming sources of tension. For instance, the widespread forest fires in Indonesia in the first half of 1994 were not only a source of irritation to Singapore, but there was some feeling that such destructive acts, if continued, posed a serious threat to the economic as well as the environmental well-being of neighbouring states. If such issues are left to simmer, then conflict may be a natural consequence.

Clearly countries acting in isolation can achieve very little. It is not inconceivable that the future will see the UN embarking upon environmental mercy missions just as they now establish missions on humanitarian grounds. However, as with many other threats and challenges to security, little improvement can be made without someone persuading someone else that a course of action is in their best interests. Countries cannot go it alone. Collective security is just as important to combat environmental issues as it is to confront the more conventional forms of conflict. The continued degradation of our natural environment - upon which all mankind depends - is a challenge which will be of increasing significance as we head into the next century.

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[1] Suzuki, D. *Time to Change* (Toronto, 1993) p 44.
[2] *Famine 1975* (London, 1968).
[3] 'Will the world starve?' The *Economist* 10 June 1995, p41.
[4] Sukuki, opcit, p18. Suzuki estimates that high-use farming techniques result in the loss of 24 billion tons of topsoil each year. This is the equivalent to 7% of the earth's arable land.
[5] Brown, L. 'Malthus goes East' The *Economist* 12 August 1995, p27.
[6] Brown, ibid. Some 700,000 hectares of farming land were built on in China in 1994.
[7] Suzuki, opcit, p19.
[8] Brown, L. *Vital Signs: The trends that are shaping our future* (United Kingdom, 1993) p47/57.
[9] Suzuki, opcit p19.
[10] quoted in Suzuki, opcit, p129/130.
[11] Brown, opcit, p108.
[12] Brown, ibid, p 109.
[13] As is the case in France at the moment with a series of bomb attacks mounted by suspected Algerian terrorists.
[14] Evans G. *Australia's Regional Security* (DFAT, 1989) p33.
[15] Schachter O. published in *Collective Security in a Changing World* (London, 1993) p40.

*'....The most precious asset of any organisation is the one most readily overlooked: its capacity to build on lived experience, to learn from its challenges and to turn in a better performance by inviting all and sundry to work out for themselves what that performance might be'*

*—(Revans)*

# The Lazy Manager's Guide to Naval Change

**by Alan Hinge**

Navy has a patchy record of success in introducing and *implementing* major management initiatives like NQM, FENM, ROCS and CSP, and I suggest that seven factors have tended to reduce the potential effectiveness of these and other initiatives. These factors are:

- Change 'fatigue' and cynicism. Navy people - like any other people - can only put up with so many new ideas and initiatives from the 'Top'. Frequent, 'Big Bang', across the board approaches to change from on high tend to have *increasingly* limited chances of long term success and sustainability.
- Imprecise instructions and directions are sometimes given during 'big bang' change processes because of the deeply hierarchical nature of the 'change' bureaucracy.
- Too much external interference and conflicting advice often exists at the local implementation level.
- Resources, expertise and training are frequently inadequate after the first burst of enthusiasm.
- Reviews are sometimes rushed and not approached in systematic ways.
- High pressures exist to make the changes successful and to be seen to 'play the game' as an *ecstatic convert*.
- Other Ranks and junior officers are often patronised and not thought of as being sufficiently creative and adaptable (yet) by middle ranking officers. Therefore, their active contribution to change management is not generally sought or is under utilised.

Because of the size and diversity of the Navy there can be no neat, magic formula developed for across the board change management. The adapted, generic change management models usually presented by high priced consultants are good in parts but, like many of their ilk, they end up relying on elaborate coordination and build up of large supporting bureaucracies to make them work. Basically, they tend to be 'Top down' change management approaches which try to think of and plan for everything up front. It strikes me that we need a change management philosophy that avoids inviting negative, *more of the same!/ So,what's new?'* responses at navy coalfaces.

Perhaps successful change in the Navy tomorrow will rely on less grand approaches to change management, that is, using low key, *incremental*, even *experimental* approaches. Such approaches involve moving forward through a series of small steps in a limited number of ships, eastablishments or force element groups initially. This can lead to learning and innovation through trial, error and evaluation. Sure, successes may not be quick and grand, but failure will be less likely and less conspicuous.

Maybe we can even reverse the traditional navy 'big bang' approach to change management , and consider experimenting with a genuinely 'Bottom Up' approach to introducing change. Why not try a few low key approaches that shift attention away from hierarchically driven processes to people? *Why not let the on site Navy people who are supposed to implement the change actually plan the change!* That is, *they* become the change managers and navy office staff become facilitators, compensation providers and evaluators.

However, to really improve the way we do business we have to clarify a few assumptions about the *majority* of people in our organisation. We have to make a fundamental and very important judgement: For the most part are our people Type X or Type Y, that is, do *most* Navy people inherently dislike work and responsibility and avoid both if they can? Do most need to be coerced, threatened and directed to get the job done (Type Xs)? Or, do *most* navy people exercise self direction and self control in the service of objectives to which they are committed? Do most learn to seek and enjoy responsibility and exercise high levels of imagination, ingenuity and creativity in their jobs (Type Y)? What do you *really* think, on balance?

If we really believe that — given the time, freedom and resources— *most* on site navy stakeholders are or can be Type Y's, then they can competently develop their own, local change management plans. This is because Type Y people generally know their jobs well and, with a bit of a 'nudge', can make willing and cooperative problem solvers. After all, our navy is a big organisation carrying out diverse, complex operations; for the most part it is manned by a good, skilled workforce. There has to be enough positive, creative people in Navy units to make reasonable changes work if Navy's traditional *failure factors*, as described above, are mitigated. Moreover, if we combine sound

strategies for change with the *tactics* of personal empowerment, then positive change can be enduring.

## A Strategy for Change —

## Practical Trial and Evaluation

'Change' should be sold as a self improvement process and often can best be implemented on a challenging, 'trial and evaluation' basis. So, take the time to do things right, and in cases of taking on board major changes, why not consider taking the same kind of time and care as we do in accepting ships for service?

*Practically* test implementation of proposed changes in different, representative Navy units over months, or even years in some cases. A simple, three phase approach is described below:

**Phase 1 - Set up a *Control Site***

Make the first change site a success - a Benchmark - if at all possible.

Choose a site (ship, establishment, force element group etc) that can be used as a 'benchmark', and make a point of injecting adequate compensation resources. Characteristics of the site could include:

- Adapting to the change should be relatively easy.
- Activities are relatively self contained, clearly defined and focused.
- Measures or criteria of effectiveness (MOE's) are clear and outputs are relatively easily measured.
- Willing, capable and cooperative problem solvers are already on the ground to form the core of the on site change management team.

**Phase 2 - Test General Utility of Change**

Set up a few more pilot sites where the *extent* of success is likely to vary. For example, Pilot Site 2 could be selected on the basis that adaptation to the change is not quite as straightforward as with Site1. Activities are not as tightly defined and identification of MOE's and measurement of outputs is more difficult. Meanwhile, adaptation to change at a selected Pilot Site 3 would be inherently more difficult. It would be much harder to tightly define and separate activities, identify MOE's and measure outputs.

**Phase 3 - Decision**

Phases 1 and 2 can give solid, empirical evidence to assist in making decisions on the practical extent of implementing a change. You can then commit to general introduction, or partially implement the change in potentially high return units, or carry on with the experiment by setting up more pilot sites, or you can cancel the change on the basis of poor cost effectiveness and lack of widespread utility. And remember, whatever you have spent or sacrificed so far is now meaningless (sunk cost); what really counts now is the opportunity cost (benefits foregone) of persisting with a bad initiative....Real genius is knowing what you can do with available means and doing it, and knowing what you can't do and not even trying it.

## The Tactics of 'Bottom Up' Change

The tactical trick for lazy change managers is not just to get on site stakeholders to implement change; it is to get them to do all of the *planning* as well. Consequently, if you were a lazy on site change coordinator you would:

- Know what the important and *achievable* outcomes are for the site, keeping objectives simple and relatively low key.
- Take your time and set realistic, even generous, time frames.
- Tell the implementers what you want and why.
- Clearly outline benefits to local stakeholders at the beginning.
- Provide information on the 'big picture' and other aspects
- Organise personnel and material *support* to compensate implementers for their involvement in developing and implementing the change. Individual net workload for members of the on site change team should not increase significantly.
- Avoid polarising opinion by making sure that no one loses, or is seen to lose.

As a lazy change manager you should aim to get results *through others* by getting stakeholders to do the thinking and encouraging them to build their own autonomous, self organising/self correcting groups. This process can be assisted by:

- Giving them plenty of time to sit down, think and talk.
- Creating an environment where they are free to criticise, question and advise.
- Visibly providing compensators like personnel assistance and material support.
- Getting their opinions on:
  a. Possible short, medium and long term *gains* for the unit.
  b. Possible short, medium and long term *losses* for the unit.
- Asking them questions.
- Seeing if they see any problems.
- Giving them plenty of time to assimilate to the situation.
- Asking them for an outline plan to yield the change outputs desired.

You can then:

- Discuss the plan with the team and higher authorities and make suggestions.
- Go with the team's plan (even if you can think of a better one).
- Encourage them to do it.

- Give them what they ask for.
- Don't blame them for 'stuff ups'.

## Pros and Cons of 'Bottom Up' Approaches

Disadvantages and advantages exist in using a largely Bottom Up approach to managing change in the navy. The main disadvantages are:

- Lots of time is needed for the systematic consultative and learning processes involved.
- There are difficulties in arranging compensatory resources for on site teams in an allegedly tightly stretched resource environment.
- Less detailed control is available to 'central office' because substantial power *must* be handed over to on site implementers.

The main advantages of the 'Bottom Up' approach are that it:

- gives 'ownership' and the power to plan to the people who have to implement the change and live with it.
- plugs directly into capable, on site personnel and the Navy's legacy systems, especially NQM and the Navy Information Network.
- avoids another 'grand' approach to change from 'on high' which could meet with negative attitudes.
- develops navy people continually and systematically through action learning and comes up with local, tailored solutions that will reveal problems at the working level early. These problems are probably going to crop up anyway; it is better to face them up front and early with adequate resources, motivation and focus.
- stops and then reverses 'rank creep' through systematic, widespread delegation processes. Today, many navy managers are - often justifiably - scared of delegating and are therefore not educating their subordinates or learning to really trust them. (A vicious cycle exists where skill levels for rank decrease, less confidence in abilities exist and even less delegation occurs. Consequently, some officers end up doing the jobs of senior sailors, senior sailors end up doing the jobs of their leading hands and 'Jack' ends up doing what he likes!)
- develops 'ownership' of change at the grass roots level. Successes will be talked about in the Messes and positivism can spread. After all, even Type Xs cannot easily 'knock' their own initiatives, plans and the quality of their own implementation work.

## Conclusion

What we are talking about here is change management based on the Navy becoming an *action learning organisation*. Action Learning Organisations use tasks or changes as vehicles for learning, with organisational development and self development designed to go hand in hand. Importantly, action on the change management problem not only changes the problem, it also changes the person working on it; so the person is likely to become more flexible and capable in a wider variety of tasks.

Bottom up change also creates a healthy bias for action by providing continuous opportunity for self development, empowerment and organisational renewal. It gets away from the big bang, Top Down *paralysis by analysis* approach to change, and treats most of our people the way they want to be treated.

**About the author**

*Lieutenant Commander Alan Hinge holds a Masters Degree (MA) in Strategic Studies and a BSc (Physics), both from the ANU. In 1984 he became the first junior officer in the ADF to be awarded a Defence Fellowship, and since then has had forty-three articles published in professional military journals in Australia and overseas. These articles have covered a wide range of topics, from leadership and adventurous training to naval operations and project management. He has also written a book on mine warfare ; edited two others on project management and is a contributing author to the Australian Dictionary of Biography. He has won ten major prizes in international essay competitions and has edited this journal during 1987-88 and 1994-1996. He is currently Co Director of the Australian Defence Studies Centre's Defence Industry and Logistics Program, and in July 1996 he took up the inaugural CDF Scholarship. His topic is:* Achieving More Cost Effective Defence Preparedness in the Post Cold War Era.

# England Expects!

## So Do France, Japan and Brazil!

by

**Graham Wilson**

On the morning of 21 October, 1805, as his fleet was closing with a combined French/ Spanish fleet off Cape Trafalgar, Admiral Horatio Nelson called his signal officer, Lieutenant Pasco, to the poop of HMS *Victory*. After ordering various signals made as to disposition of the fleet and conduct of the coming battle, at about 1145 Nelson called Pasco to his side and said: 'Mr Pasco, I wish to say to the Fleet, "England confides that every man will do his duty"', adding, 'You must be quick for I have one more to add which is for Close Action."

Pasco replied that if his Lordship would permit him to substitute 'expects' for 'confides', the signal could be quickly completed since 'expects' was in the signal vocabulary while 'confides' would have to be spelled. Nelson concurred saying: 'That will do, Pasco. Make it directly.' Within minutes, the 33 flags making up the signal hoist had been run up and read by the fleet and the most famous signal in British naval history had entered into immortality.

As an aside, Nelson's second-in-command, Collingwood, had a great distaste for signal verbiage and as the flag hoist was run up on Victory showed this by exclaiming: 'I wish Nelson would make no more signals, we all understand what we have to do!' When he was shown the text of the signal, however, he relented with the words: 'Great man, I forgive him.'

As we all know, Nelson died at Trafalgar, but his immortal signal lived on. To this day, it is flown aboard *Victory* every year on the anniversary of Trafalgar. But it is not just at Portsmouth Harbour that Nelson's deathless words have been repeated.

Nelson's enemy, Napoleon Bonaparte, was, above all else, a great inspirer of men and was not averse to plagiarising what he might perceive to be a good, inspirational phrase. This was shown by the fact that not long after Trafalgar, when he was informed of Nelson's signal, ordered the following inscription to be prominently displayed on all French warships: LA FRANCE COMPTE QUE CHACUN FERA SON DEVOIR, which, freely translated, reads as: FRANCE EXPECTS THAT EACH MAN WILL DO HIS DUTY.

Almost exactly 100 years after Trafalgar, another great admirer of Nelson's, the Japanese admiral Togo, was leading his fleet into battle against the Imperial Russian Navy in the Tsushima Straits on 27 May, 1905 during the Russo-Japanese War. As the flagship Misaka steamed into battle, the following signal flew from its halyards: ON THIS BATTLE RESTS THE FATE OF OUR NATION. LET EVERY MAN DO HIS UTMOST.

The most obscure, historically speaking, plagiarism of Nelson's signal, however, occurred in 1865 during the bloody War of the Triple Alliance. This savage but little known conflict, which lasted from 1865-70, was fought between the triple alliance of Argentina, Brazil and Uruguay on one side and Paraguay on the other. On 11 June, 1865, the first of the two major naval battles of the war was fought at Riachuelo. As with the other major naval battle, Humaita, the Battle of Riachuelo was fought over 1000 kilometres from the sea on the mighty inland rivers of South America.

The battle was in fact fought at the confluence of the Parana and Paraguay Rivers near the fortified river port of Riachuelo and resulted form an attempt by the Paraguayan Navy to break the Brazilian blockade which was cutting Paraguay offfrom the outside world. That Sunday morning in 1865, as the Paraguayan fleet was sighted bearing down on his flotilla, the Brazilian admiral Barosso, like Togo a great admirer of Nelson, ordered two signals flown from his flagship, the paddle wheel cruiser *Amazonas*.The first signal was a directive to engage the enemy closely. The second, a conscious imitation of Barosso's hero, read: BRASIL ESPERA QUE CADA UMN CUMPRA O SEU DEVER! which, translated, reads as: \BRAZIL EXPECTS THAT EVERY MAN WILL DO HIS DUTY!

They say that imitation is the sincerest form of flattery. I would think that the foregoing proves this.

As a concluding thought, if 'England expects, etc', is the most famous signal in British naval history, the question arises as to what is the most famous in Australian naval history? I'd personally put my money on 'Emden beached and done for!' Any takers?

# Asset Visibility

## Functions, Implementation & Plans.

by

**E. Barber**

Within the last few years, many countries close to Australia have undergone signifi cant governmental, social and economic changes that impact on Australia's military defence strategy. Such events will probably continue to occur. As events in Asia change, Australia will continue to devise more progressive defence strategies. With tighter defence budgets, military strategists face many challenges in maintaining a force capable of rapid deployment .

One of the biggest problems encountered when handling logistic support is how to keep track of the relevant support elements. The ability of a commander to have instant access to information on the status and locations of supplies, coupled with the ability to divert or alter the delivery location or sequence is essential for the efficient and effective conduct of war. To have faith in the reliability of sustaining a continual update of the tracking of the response of such decisions is better still. To be able to tell at any given time precisely where a particular piece of equipment is when in active duty can also be very useful. It is often overlooked though that 'efficient response' when called upon to supply a particular piece of equipment does not mean that the immediate location of the required equipment is known. It may not matter where the equipment is at all. Efficient response means delivery when needed and in full working order.

Asset visibility provides the ability to locate equipment efficiently. Asset visibility means locating and tracking supplies when one wants too. This does not mean that efficient logistic functions will automatically occur but it does mean that efficient logistic functions will be enhanced if asset visibility systems are used efficiently.

This is the first of a series of three articles on asset visibility. The second will analyse costs and benefits arising from the efficient use of asset visibility systems: the third will compare asset visibility needs of the ADF with those of public and private industries.

Most defence organisations have asset visibility but usually it is fragmented and limited in scope or not fully integrated between forces or with industry suppliers. The objective, if unlimited budgets were available, would be to develop total asset visibility processes and capabilities that would provide near real time visibility of the total inventory from 'factory to foxhole'.With budgetary constraints, a variety of asset visibility processes have developed and need to be integrated efficiently to enable the right equipment to get to the right place in the right condition at the right time.

### The Defence Logistics Strategic Planning Guide 1995 (LSPG, 95)

In looking at the functions of asset visibility, this first paper details where asset visibility can be most useful, given the recent logistics strategies tabled in the Defence Logistics Strategic Planning Guide 1995 (LSPG,95). The vision for logistics stated in the LSPG, 95 is:

*to provide the most effective and efficient logistic capability to enable the ADF to carry out its endorsed roles and tasks.*[1]

Comprehensive, coherent and disciplined planning is required to ensure this vision is achieved. Principles are the primary guidelines for the achievement of the logistic vision and goals are the activities through which each principle will be pursued. The strategies provide more detailed guidance on the achievement of the goals. It is in the areas of planning and deciding goals where asset visibility should be considered. If a goal is stated as 'complete asset visibility for all supply items within the ADF', or 'within all inventories', or 'within the combat zone', etc then these goals will conflict with other goals such as those relating to cost effectiveness. Consequently it is important that at the planning stage decisions relating to the major goals should consider goals such as seamless logistic requirements and the means of achieving such requirements.

A primary consideration is to what extent, given other constraints and goals, can these subset goals be achieved? In the case of asset visibility various nations have implemented a number of systems. Some on the existing information systems incorporating asset visibility abilities or tracking facilities will be mentioned in the following sections. This section will continue to analyse where asset visibility can assist the achievement of goals tabled in the LSPG, 95.

Within the Planning Environment the geostrategic environment has been described as having the emphasis on northern operations.

*'With the bulk of Australian defence facilities and defence-related civil infrastructure and industrial capacity still concentrated in the south and south-east, the ADF needs to be prepared to operate from bare bases and austere forward locations. Accordingly, logistic planning needs to address the integration of civil assets and capabilities into our defence effort, particularly in the areas of transportation, supply and maintenance.'*[2]

The north-south dichotomy means that asset visibility abilities will be required more than if this dichotomy was not present. Equipment may be widely dispersed and time in collecting requirements under threats that could arise with little warning is important. The aim would be to achieve real time information and co-ordinated intermodal transportation to achieve minimum delivery times. Asset visibility can also assist the integration of civil assets and capabilities in greater depth and range.

A central theme of Government defence policy is the factor of self-reliance[3]. The more efficient the asset visibility systems, the more self reliant the ADF will be. Through-life support means that the asset visibility systems can be planned and implemented in the planning stages. These systems will be well understood with continual usage. Such systems could also be very cost effective as industry suppliers presumably, given competitive market structures, will have developed tracking systems which are most adapted to their particular product and customers' needs. Thus defence can 'free-ride' on this expertise.

Defence can also benefit from industry's existing abilities concerning customer relationships. All major suppliers of equipment, especially in transportation, have become extremely conscious of the quality of service needs of their customers. Integration of their own systems with their customers systems is a major part of the quality attributes of customer service. Vertical partnerships and close computer links tend to profit and stabilise markets. Consequently the asset visibility systems between industry and defence can be linked in a similar fashion as other industry partnerships.

Other logistic planning considerations include:

- Faster Response Times
- Seamless Logistics
- Best Practices
- Flexibility and Robustness and
- Rationalisation of Logistic Activities[4].

Asset visibility when used efficiently will improve each of the above considerations. It should also improve cost effectiveness. Most of all, asset visibility abilities, when used efficiently, will provide greater flexibility, seamless logistics and faster response times.

## Benchmarking Asset Visibility Internationally

This section looks at what other nations have available in the area of visiblity of assets. The advent of the computerised infantry combat vehicle is just one of the many developments that has increased the load upon all military logisticians throughout the world. Modern mobile load handling technology such as the United Kingdom's DROPS(Demountable Rack Off-Loading and Pick-Up System) and modern transportation focusing on increased mobility such as Improved Mobility Vehicles(IMVs)[5] have contributed to the 'hardware' side of speed, flexibility and mobility needs of the modern combat forces. When benefits from these developments are coupled with the contribution that asset visibility abilities provide, the benefits to a combat force are multiplied. This phenomena is referred to as 'force multipliers'[6]. One of the first modern Combat Supply Systems (CSS) was developed in the United States. The major advantage cited from the initial development of such systems was the ability to take computer facilities into forward areas with confidence that the system would work. The emphasis was on confidence of reliability not on the aspect that computerisation had 'hit the front line'[7]. The confidence of today's logistician is boosted with the complexity of the systems, their reliability and their expanded capabilities. The capabilities such as the British visibility in transit, asset logging(VITAL) system, the electronic recording in-cab (ERIC) system and the logistic tracking system(LOGTRACKS) are all improvements which are gradually encompassing the complete support service with asset visibility[8].

In the United States, The Combat Service Support Control System (CSSCS) is the logistics module of the US Army's Battle Command System which is AUSTACCS equivalent. The US system has five nodes and incorporates a set of core tools which include office automation, map module and communications between nodes. Functions currently provided include graphical displays of combat and support organisations and command and control status, tracking of critical items (up to 350 items per corps) and tracking of consumption and holdings of some classes. The extra strength developing from these tracking facilities is the integration of the Knowledge Based Logistics Planning Shell (KBLPS) which is a decision support system designed to assist logistic planners. In Australia KBLPS could be adapted as part of the current Australian Land Force Distribution System and AUSTACCS CSS Command and Support System[9].

In the case of jointly used, but separately supplied, products in Defence such as weaponry parts and ammunition, asset visibility needs to entail combined usages[10], more so than is required in most cases in

commercial enterprises. Efforts throughout all military establishments have benefited from the information system developed in the United States to integrate weaponry data. Computer Aided Acquisition and Logistics (CALS)[11] was originally initiated by the Department of Defence and industry in the United States to enhance the use and integration of electronic text and graphical information for weapon system acquisition, design, manufacture and support. The aim was to establish a highly automated and integrated data system to improve productivity and quality of weapon system acquisition and logistics process. One aspect was the standardisation of the technical information related to these weapon systems. It provides common definitions of data interchange and access rules. CALS standards are compatible with Electronic Data Interchange (EDI) standards for information transfer and with the Government Open Systems Interconnection Profile (GOSIP).

In direct contrast to Australian long distances between support bases, Japan's Defence force has stockpiled in five major depots within the immediate Tokyo region in order to form a single maintenance and logistics depot. Although greater emphasis has been given to the logistics of air and naval needs, the modernisation of their Ground Self Defense Force (GSDF) has implemented three five year planning cycles to develop stocks to the desired levels by 2005[12].

## Asset Visibility in ADF

The United States, United Kingdom, France and NATO use CALS. Interim policy advice on the adoption of CALS by ADF was issued in March 1990. The Defence Logistics Strategic Planning Guide was endorsed by Defence in May 1990. This document outlined a number of objectives to better achieve the logistics mission. Defence and ADF adopted a uniform policy on CALS in June 1991. All new acquisition projects require production of technical and support documentation to the CALS standards, unless CBA proves that such usage would not be cost effective over the lifecycle of the equipment.

## RAN

The Navy uses the Ships Logistic Information Management Systems (SLIMS). Since 1990 SLIMS and related modules has gradually been implemented on all of HMA ships. It has also been installed at onshore bases. It is a micro-computer based integrated logistics management information system. It was developed to integrate the supply, engineering and equipment management aspects and external users. The accounting and inventory systems are now linked. Suites of programs can transfer selected files from one SLIMS site to another giving a seamless connection from ship to shore.

The Collins Class Submarine project developed a fully integrated shipboard and shore based logistic information management system. It can receive data from operating machinery for the purpose of undertaking activities such as maintenance diagnostics, RAM analysis, identifying spares support requirements etc. The aim of this logistic management system was to establish and sustain an enviable degree of self-reliance which follows the LDSPG,95 directives[13].

From the 1987 push by the Australian Government for greater self reliance the Navy has and is presently undergoing major changes to its logistical strategies. Now that the parent navy capability is Australian built the support services are also heavily reliant on Australian based support instead of the previous allied parent navy support. This means that not only does the technical support over the life cycle of these new ships and associated capital equipment is maintained by Australian companies but the strategies and control management systems are also initiated by Australian companies in conjunction with the Australian Navy. The Logistic Support Analysis (LSA) of our Navy is based on the United States Department of Defence MIL STD-1388-1A[14]. The lack of expertise in the Australian Navy and the associated Australian civilian contractors has gradually diminished over the past three years. Very close integration of civilian and Navy project teams and contractual agreements could lead to a high degree of sustained imperfect competition. In economic terms this environment could lead to destructive competitive elements being diminished or on the other hand could lead to equally similar destructive monopolisation. Insufficient expertise is available at present in the Navy to assess the impact of these possibilities on the self reliance objectives and their outcomes.

In 1994 the relocation and reorganisation of inventory control from NSC ZETLAND to the DNSDC occurred[15]. The transfer has now been completed. Simultaneously the relocation of unique stores to operating bases occurred, for example the Collins class stocks to HMAS STIRLING and the Hydrographic ships to Darwin. The 'Two Ocean Basing' concept necessitated logistic realignments. For example, HMAS STIRLING and HMAS ALBATROSS and HMAS CAIRNS have all been upgraded. Within this concept the JLOTS base moved from Sydney to Townsville in 1995.

## JLOTS

The most difficult terminal procedures used in military environments are Joint Logistics Over the Shore(JLOTS) operations where ships and water craft unload without the benefit of fixed port facilities. Some of the offshore oil industry technology has been used by the military to improve its LOTS capabilities. In the US and British Navy services, for exam-

ple, the Deployable Waterfront Facility(DWF) has been introduced. Engineering research tend to be concentrated in the areas of lighterage and platform concepts in response to the military rapid mobility requirements. Research is being undertaken to maintain asset visibility throughout these extremely hazardous conditions. The improved technology capable of handling containerisation complements the increased operational visibility over the total process[16].

## RAAF

A growing emphasis on acquiring high-technology weapon systems led the RAAF to branch out and develop and implement the Weapon Systems Logistics Management(WSLM) support service. The philosophy behind this service is a parts and service support system based on unique equipment but its more than just the integration of logistics elements. It empowers the WSLM group with the authority to make decisions under one small multi-skilled unit. The WSLM concept is a radical departure from traditional RAAF management practices which had relied heavily on formal lines of communication and management via a hierarchical rank structure. WSLM provides flatter management structures, broader spans of control and team accountability. Asset, functional and managerial visibility is improved. The RAAF has separated its different aircraft bases geographically which means that a natural transgression to unique supply depots developed. This in turn led to separate distribution needs and repair workshops. The maintenance, storage, ordering and part acquisitions became uniquely associated with the particular location of the aeroplane base[17].

Many of the modern weapon systems contain technically sophisticated and highly integrated and specialised subsystems composed of complex electronic and optical equipment. The need for fast, specialised and secure support for these interrelated subsystems is essential to maintain useable aircraft. The RAAF introduced WSLM concept for management autonomy and to increase efficiency and effectiveness, eg. for item management so that it can quickly identify and replace essential technical subsystems and thus minimise downtime.

In the United Kingdom the RAF has extended the logistic support to a Support Chain Management (SCM) approach. It takes a whole system approach from the mechanism of deciding what should be bought or repaired, contractual procedures to the manufacturer or repairer and then to the receipt, storage and distribution activities of the RAF. By taking the total system approach the RAF found that they could identify inefficiencies caused by bottlenecks in the flow of material or information. In this case, asset and functional visibility were combined[18].

The United States aviation battalion/squadrons use a Unit Level Logistics System- Aviation(ULLS-A) which is an automated, menu-driven personal computer network system that operates within all aviation squadrons. The ULLS-A is divided into five major logistic processes of supply, utilities, maintenance, production and historical, materiel status and tutorial[19]. Whereas the other forces of the ADF have centralised their storage and distribution system to a major extent, the RAAF has tended to the US type of unit level systems approach. The Navy has a two ocean policy that means that from the central store orders are despatched across the country. Army has numerous locations to which items are distributed from the central storage complex.

## ARMY

Asset visibility is common in any logistic sector in large warehouses and ranges from covering or linking with supplier stocks to 'dues in' from purchase orders etc. Asset visibility is extended to break downs of product sub-groupings; sub-group location; in transit facilities; simultaneous information monitoring and additions to barcodes and inter-related systems. In Australia, extensive automation within DNSDC warehouses has incorporated the visibility aspect of items and functional processes. Items are usually tracked by their item based barcode. Orders are picked by the barcode, located, placed on conveyor belts, sorted into deliveries, monitored, restocked and allocated to despatch bays automatically. Manual packing of transport still occurs. Barcodes are added automatically at some point along the conveyor belt to identify such information as dispatch bay, customer ID, type of transportation, priority of order etc. Warehouses are an instance where items and their sub groups as well as locations of each item group are numerous. Asset visibility systems are extended to include each item group and sub groupings. AutoQ is another form of information integration which is being used by the Army. It is unit based. It lists the equipment needs for each unit. Supporting supply, maintenance and parts information networks are integrated into the AutoQ system which is connected throughout the warehouses at DNSDC.

The visibility matrix can become dynamic in that as each order is picked and placed on the conveyor belts, restocking is automatically programmed, movement along the conveyor belt is programmed to direct the particular item to the required dispatch bay whilst simultaneously combining the sub group of the item with the total order. Some systems are automatically linked with performance monitoring performa. For example if an item cannot be located or stock reserves are low then the system will record that this order was not finalised or reserves are below a pre-determined critical level and will be automatically recorded on the daily, weekly or monthly performance indica-

tors. This network can be integrated with other systems such as a financial auditing system which will mean that once the item is picked from the shelf in the warehouse the order will be automatically invoiced to the customer. Indirectly these two systems can constitute another integration in that performance can be monitored. The speed and accuracy of order fulfilment are an output performance indicator of customer satisfaction. Customer satisfaction in this example would automatically monitor in full and/or on time order receipt.

Army doctrine in the ADF used to define the storage depot as the mainspring of the logistic process but as asset visibility can be established at the point of manufacture most crucial assets are at least partially visible from suppliers plants. This has occurred throughout the Australasian markets. It is very common in the retail industry. In some industries such as car parts and production and retail the point of manufacture is commonly the point where asset visibility begins and is often located at an overseas production plant. Changes to self reliance in the ADF has altered some aspects of Army 'cradle to grave' management strategies and visibility needs.

A distinctive need for combat readiness for the military logistician is for warehouse systems that provide an orderly out load at a given time and with a clear indication of what is in stock and in the pipeline or directly available from suppliers. Commercial logisticians controlling warehouses have more regular and predictable dispatch services. Military warehouses may store more equipment requiring specialised handling and greater variety of items requiring different types of handling[20]. Non-military depots are not as static as they were previously and development in global logistic systems in the storage and distribution technologies associated with high volume retailing have tended to set the technological pace rather than the traditional military leadership[21].

Management sees goods passing through terminals as a value adding process if minimal handling occurs and equipment is not laying idle. Terminal procedures are classified as pure transactions costs which have to be minimised. Automation within terminals and technology permitting logisticians to maintain visibility of goods throughout the total manufacturing stages, supply, warehousing, distribution and customer locations enable goods to move through the various terminal areas faster and smoother. Asset visibility over the total logistic function multiplies the performance of the total logistics function more than partial asset visibility. The performance of transit through terminals can demonstrate this point. With total asset visibility the dispatch controller can co-ordinate the delivery of items to the terminal to match the entry of empty trailers and driver shifts so that items flow through the terminal in the minimum time as well as ensuring that productive assets such as drivers, trailers and transportation are also used to their capacity. The resultant reductions in costs produce the most efficient minimum cost point as all input costs were used to their maximum efficiency; not just a few.

## PLANS

During the seventies most of the different functions in the ADF were operated as separate services, each with its own procedures and abilities. Few were integrated until the recent implementation of SDSS and the DNSDC. Not all inventories and equipment need to be under one 'visibility' umbrella. Plans for asset visibility in the future should be to develop and employ automated systems to include a total asset visibility capability which does not mean a single system which provides total asset visibility. The capability can be achieved through integration of systems. Only those systems required to provide total asset visibility of a single piece of equipment or series of supplies need to be integrated at any particular time. Thus systems should include integrated automation, intransit visibility capability, identification technology, container-content visibility, real time data on critical logistic supplies, automated maintenance planning systems, critical path system controls and life cycle supply systems.

The area where most attention may need to be addressed is the integration of the current systems operating through each force as well as joint systems. Versatile logistic support is required to integrate with civil infrastructures and industries whilst maintaining security and flexibility within a seamless logistics information management system. The synchronisation of the civil and military support effort to any particular unit in any situation need not be controlled by one ADF organisation. The procedures and process need to adapt to particular circumstances but follow accountable singular organisational guidelines. Thus the tailoring to particular support structures need not be impeded.

Time precision delivery is the top priority of logistics managers in civil industries as well as defence. In private industry competitive advantage has been sharply redefined in recent years. The quality of most goods and services is now assumed. As a result competitive advantages in the form of added value are now being sought in the areas of service delivery. Logistics management is being moved into the forefront of business priorities. This movement enhances the defence/civil relationships. Industry alliances are being formed among international and national transport suppliers with their clients. The use of linked information systems between allied supplier, transporter and retailer or end user increases the depth of asset visibility. Transportation is often highly specialised for some goods and services and it is often multimodal. Due to

linked information systems, visibility is not lessened as goods change modes. The ADF is quickly taking advantage of these industry alliances and linking in similar manners with their particular suppliers. Short term contracts should not jeopardise these benefits. Cradle to grave contracts provide implicit benefits via linkages of information systems. Short term contracts may incur high transactional costs and unreliable delivery.

In peacetime within the ADF distribution system there can be thousands of items in transit around Australia and overseas. The ability of support services to have instant access to information on the status and locations of supplies, coupled with the ability to divert or alter the delivery location or sequence will improve the performance of the service in peace time. Such needs are common to the military and the commercial sector. In war time such capabilities will provide more efficient and effective support for combat forces.

Coupled with the high technology developments must be high quality people from industry and defence. In the future, there will be more ADF involvement in the combat component than ever before. Training and induction programmes to linking current support systems will ease transition to total visibility of required items. Total asset visibility should not be seen as a peace time concept separate from a war time scenario. In war, visibility parameters may change but the peace time system should be programmed to adapt immediately to such scenarios. The ADF have to design peace systems that work in war. The problems of combat is the sustainability of peace time operations in environments of increasing risk and environments which keep shifting objectives and thus logistic requirements. Small systems such as currently in use throughout the ADF need expert programmers and users to modulise and link data bases. These linkages must maintain a high element of flexibility to counter the increasing risk factors and shifting objectives of the combat forces. Industry capabilities have also got to link their data bases with the ADF data bases.

There is a quiet logistics revolution occurring in the Australian wool industry via electronic trading which is providing total asset visibility through the wool industry of the world. The defence industries of the world are beginning to lead these quiet achievements of logistic visibility of items.

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# Book Review

## War In The Indian Ocean Vice Admiral Mihir K. Roy PVSM AVSM 1995 Spantech and Lancer UK $27.50

Vice Admiral Mihir K.Roy has provided us with a fascinating and timely account of the strategic maritime importance of the Indian Ocean from a perspective with which few Australian readers would be familiar. The scope of *War in the Indian Ocean* is comprehensive, taking the reader on a seven hundred year journey — from the 1400s through to the Twenty-First Century.

We begin our Indian Ocean odyssey by setting sail onboard the Fukien Junks of China, (commanded at one time by the famed Zheng He, also known as the Sambo Taigjan — the three-jewelled Grand Eunuch!). After an all too brief explication of the genesis of India's maritime perceptions, we learn the part the Indian Navy had to play in the years leading up to and immediately following independence. Chapters 3 to 5 deal with the naval aspects of the conflicts between Indian and Pakistan. The final chapter, in my view, the book's strength, deals with Admiral Roy's perception of the current state of maritime issues in the Indian Ocean.

Admiral Roy frequently uses the term 'sea blindness' to describe the inability of politicians and strategists alike to grasp the importance of the maritime dimension of international security. The current imbalance of the Indian Defence Forces he ascribes to a historical preoccupation with the defence of the Himalayan passes, at the obvious expense of an inadequate means of defending 7300km of coastline and 1264 islands. In economic terms, the extent of this 'sea blindness' becomes apparent when we are told that, in the 1950 Indian defence budget, the Navy was allocated only 4.76%! By 1994 this had risen to only 12% of the total defence outlay.

Many readers will be fascinated by the role played by the Indian Navy during India's struggle for independence and during partition. Interestingly, the simple fact that Indian and Pakistani naval officers had trained together in the UK in the years leading up to the partition, meant that acrimony and division within the Navy was largely avoided. For instance, in 1947 we are told that the Indian frigate *Cauvery* sighted a Pakistani frigate enroute from Chittagong to Karachi. The CO of the Indian ship ordered Action Stations and then invited the Pakistani CO to join him for a drink! Similarly, while the armies of India and Pakistan were engaged in combat with one another, their naval compatriots were engaged in a contest of a different kind — on the hockey field!

For the naval historian, the somewhat bitter break-up between the Indian and Royal Navies makes fascinating reading. Until 1958 the Indian Navy was commanded by a Royal Navy officer. However, in 1963 when the UK only offered India the ageing Battle Class destroyers and 'T' class submarines to re-equip her fleet, the Indians begin to look further afield. History records that India eventually acquired *Osa* class missile boats, *Petya* class patrol craft, *Nanuchka* class missile corvettes and later the *Kashin* class destroyers and a *Charlie* class nuclear submarine from the former Soviet Union. Interestingly, Vice Admiral Roy sees this break as necessary, not only from an equipment point of view, remarking that the RN/RIN relationship had "...in a way stunted self-reliance and also diminished innovative thinking."

Although *War in the Indian Ocean* does provide a refreshingly new perspective on the maritime aspirations of one of Australia's near neighbours, the book, as a whole, does suffer from some frustrating and annoying elements of self-promotion. At times I became a little confused as to what identity the book was attempting to adopt: was it a history? A biography? A strategic treatise? A set of memoirs? For instance, we are brazenly told:

> "I, surviving two 'ditchings', pioneered anti-submarine warfare, photographic intelligence and aerial mining and also assisted in framing *ab initio* rules and regulations governing the Fleet Air Arm of the Indian Navy" and
>
> "The CNS left in a huff and his hitherto cordial relations with Admiral Roy were thereafter frosty...In some way this misunderstanding impinged on the choice of CNS' successor."

Now, while either or both of these remarks may be true, the self-serving nature in which they were presented detracts from the remainder of what is a fascinating book.

However, as mentioned earlier, the final chapter of Roy's book is its strength. The prediction that the geostrategic situation since the end of the Cold War has

> "...ushered in greater factionalism, sub-nationalism, terrorism, famine, ethnic cleansing, fundamentalism and environmental degradation ... and has turned the Cold War into boiling conflicts."

is a sober and timely warning for us all.

For a thorough background on Indian maritime strategic perceptions, the reader should turn to Vice Admiral Roy's *War in the Indian Ocean*.

Reviewed by Lieutenant R.C.A. Leahy

# Letter from Canada

## Canadian Naval Reserves

### From Commander Peter Jones RAN

Over the two years there have been significant changes to the Canadian Naval Reserve (NR). These changes have similarities to the RAN experience, but there are also some significant differences.

The NR amounts to 4000 personnel posted to 24 NR Divisions across the country. Some of these divisions are on the prairies thousands of kilometres from the sea. The existence of these far flung divisions is a product of the vision of Admiral Walter Hose. He established them following the Great War in an attempt to maintain an expansion force for any future conflict. This was a bold stroke at the time as it was at the expense of maintaining ships in commission. This vision was to reap dividends and it allowed the Canadian Navy to expand to an immense corvette based Navy in World War II. The efforts of Hose have quite rightly earned him the title of "Father of the Canadian Navy".

Commanding the NR Divisions is the Naval Reserve HQ in Quebec. This modern and impressive HQ has an administrative and training role only and is commanded by a Reserve Commodore. Despite its administrative status it is one of the four naval headquarters[1]. Significantly it is also a tangible naval commitment in Quebec.

In 1995 the Canadian Government ordered a review of the Canadian Forces (CF) Reserve structure. There were a number of factors driving this review. In the course of the Parliamentary Review into Defence prior to the 1994 Defence White Paper it became clear that the 30,000 strong Reserve Force was expensive and should be more efficient. This was particularly the case with the Army Reserve. Around $1billion (approx. $250m for Navy) was spent on reserves. This is a significant portion of the Defence vote. The Review found that many of Armouries around the country had become "rank heavy" in the officer corps. In addition they had few troops to support Canada's UN peace support operations.

One of the issues addressed by the Review was retention. In Canada, university students are a traditional source of recruitment. The Reserve is seen by students as a good and reliable summer job. The problem of course is the very high attrition rate as students leave the Reserve on graduation. This is not helped by the lack of measures to encourage employers to support the Reserve employees as well as relatively poor pay and conditions when on service. These issues were recognised by the Review and are being addressed by the Canadian government.

After extensive hearings across the country, the Reserve Review published its study by December 1995. It reported favourably on the NR and the initiatives underway to increase its effectiveness. Following the Review the Government authorized the manpower ceilings for various NR functions. By far the largest commitment is the nearly 2000 personnel involved in manning and supporting the new Maritime Coastal Defence Vessels (MCDVs). This is a reflection of the resolve to give the NR tangible tasks.

The MCDVs story is an interesting one. These 60 metre vessels are being built in Halifax and the first pair *Kingston* and *Glace Bay* are undertaking trials. Their roles are surveillance, fisheries protection and Q route survey (using sidescan sonar). In the longer term the MCDVs will be equipped with some form of remote mine detection and destruction capability. This represents Canada's return to MCM (besides limited clearance diving) since the last of its Bay Class minesweepers had its gear removed in 1964. Canada had made some tentative steps prior to the MCDV. There are two NR-manned ex-oil rig support vessels *Moresby* and *Anticosti* which have been fitted as Minesweeper Auxiliaries. Essentially, these vessels have been proving MCDV equipment and manning issues.

Part of the original MCM plan was to acquire six minehunters for permanent service operation. This project did not survive a budget cut in the late eighties. The MCDVs on the other hand were cheaper and politically more palatable because of their link to the NR.

The current plan is for six MCDVs on each coast with two each side permanently manned by reservists on two year contracts. This will allow those vessels to be employed in the same manner as permanent force vessels. Thus, the MCDV's seakeeping capabilities will allow them to free up frigates on fisheries patrol duties.

The longer term viability of the MCDVs will take time to be validated. Certainly the large number of NR personnel required to man 12 MCDVs which each have a complement of 32 will be a key issue. This is particularly so if it is not envisaged to expand the force size in time of war. The other major issue is the development and maintenance of MCM capabilities without permanent force crewing of any of the ships. Despite these uncertainties it is clear that the program is a major step forward for both the NR and MCM.

Another key NR activity is Harbour Defence. Each coast has formed two Harbour Defence Units (HDUs). The mission of the HDUs is to guard harbour approaches, conduct patrols and inspections in the approaches and confines of harbours. They are

*(Continued on page 60)*

# Manoeuvre from the Sea — The Forgotten Force Multiplier

## A latent ADF Amphibious capability that has yet to be fully developed

by Lieutenant Commander John P. Robinson

- '.....the goal of **Manoeuvre Warfare** is to incapacitate an enemy: disrupting his fighting system (systemic disruption) by concentrating superior force against that element of his fighting system most likely to cause incapacitation'
- '.....Maritime combat power can be projected ashore using **manoeuvre from the sea** through organic attack aircraft, submarine and surface launched attack missiles, Naval Gunfire Support (NGS), amphibious forces and special forces'
- '....The ground combat function of manoeuvre seeks a position of advantage with respect to the enemy from which force can be threatened or applied. An important role of maritime power projection forces, particularly amphibious forces, is to provide **manoeuvre from the sea** in this sense'

*— BR 1806 The Fundamentals of British Maritime Doctrine*

'...Manoeuvre Warfare theory is the intelligent use of force and is a logical development of the Principles of War, particularly the principles of surprise, flexibility, concentration of force and economy of effort. Maritime forces have the combination of mobility, firepower, flexibility and responsive Command and Control systems that are ideal for Manoeuvre Warfare'. [1] In this regard Manoeuvre from the sea provides a Commander with a versatile and flexible capability that is responsive to changing requirements ashore.

Whilst the deployment to and indeed into an Area of Operations (AO), maybe undertaken by land, sea or air, or by any combination, the ability to conduct Manoeuvre operations within an AO from seaward, significantly increases the Commander's range of options.

Of primary importance, is the enhanced level of flexibility that operating from seaward confers. In particular it enables the Commander to respond in a measured and decisive manner, capitalising on the characteristics of *mobility, firepower, flexibility and responsive Command and Control systems* that are inherent to Maritime Forces.

In his address to the International Institute for Strategic Studies at the Strategic and Defence Studies Centre on 3 May 1996 the Minister for Defence, The Hon Ian McLachlan, AO MP stated that 'Australia's defence does not begin at our coast-line. On the contrary, we cannot be secure if the region is unstable. Defence is making a growing contribution to our wider regional security aims. One of the issues we need to examine is how far that particular role can and should be taken. Australia cannot be adequately defended only by guarding our territory and by merely looking on at the changes sweeping through Asia'. He went on to say 'as an island country Australia needs to give special emphasis on sea and air forces. We will work to improve our capacity to locate and respond to potential aggressors in our maritime surrounds. In terms of land forces , I recognise a need to increase the flexibility and deployability of highly capable Army elements.'

These statements provide an insight into the Minister's perception of the way Australia's Defence capability may be revamped. It is also an acknowledgment of the need to develop an ADF capability that is responsive and effective to a diverse range of possible scenarios within the region. These would appear to range from threats to continental Australia and it's offshore territories, to providing assistance and support to countries within the region. Paul Dibb, in a recent article in the *Weekend Australian*, entitled 'Rethinking our Defence' stated that; ' In my view, the main arguments in favour of change to our defence policy are strategic.

Since the 1994 Defence White Paper was issued by the previous government, the strategic outlook in the Asia-Pacific region has become more uncertain,' and that ' a slide in the regional order in the next decade would present Australia with a dangerous prospect.' In noting that whilst the Governments Defence priority continued to be to the Defence of Australia, an examination of our Strategic circumstances might result in the acquisition of "regional add-ons" to the force structure.' [2]

Regardless of what might comprise "Regional add-ons," it will be vital for the credibility of the ADF in

the region, that the ADF is able to respond quickly and robustly to any situation. The ADF must also have a force structure in place that is highly adaptable and able to meet the challenges posed by any threat scenario. The ADF must therefore become multi-functional and with finite resources, must ensure that these resources are optimised and that every capability is maximised as a force multiplier. A key force multiplier is the conduct of Manoeuvre Warfare. As an 'island Country', a key component of Manoeuvre Warfare is Manoeuvre from the Sea. Whilst the ADF has in recent years developed a limited amphibious capability, it's full potential as a significant Force Multiplier in the context of Manoeuvre from the Sea, has yet to be realised. The need to capitalise on the inherent versatility of Amphibious Warfare as part of Manoeuvre from the Sea was identified in an abstract of the following paper from the Naval War College, Newport;

> '...Today's amphibious doctrine faces serious challenges from modern technology and an increasingly lethal battlefield. A possible solution to the problems thus created rests in the newly emerging concepts of maneuver warfare. Based on the principles of rapid reaction to shifting situations and decentralized control, maneuver warfare requires new tactics and techniques for amphibious landings. The new methods must be applied in an operational context, where naval and land forces are closely integrated. This integration demands new command relationships based on the operational situation, not parochial interests delineated by sea and land. While maneuver warfare will require some fundamental changes in the Navy and Marine Corps approach to landing operations, it will significantly enhance the flexibility and devastating impact that are hallmarks of amphibious warfare.'[3]

Within Australia's region, a major consideration must be the protection of the coastal flank of an AO. This is especially vital, given that the coastal flank is likely to be extensive and isolated. However, the coastal waters also provide the Joint Force Commander with the means, through the employment of *Manoeuvre from the Sea,* with the ability to conduct and support operations within the AO, from seaward. In terms of the ADF conducting amphibious operations in northern Australia, the topography, especially in such isolated areas as Cape York, Arnhem land, the Kimberley's and the Pilbara, poses enormous logistic and resupply problems to Ground Forces. These difficulties become even more pronounced, during 'the Wet' when many of the main tracks and roads throughout the northern region are rendered impassable. During Exercise Diamond Dollar in 1987, the Forward Arming & Refuelling Point ( FARP ) could only be established ashore in the Cape York area, by loading the full fuel bladders onto LCH for transit to the coast before being lifted ashore by Chinook helicopters. During *Operation Desert Storm* it was necessary for an Advance Force of Combat Engineers and Infantry to secure and establish a Forward Operating Base (FOB) for the Apache helicopter gunships well forward of the advancing Coalition Forces, prior to the assault on Saddam Hussein's Republican Guard Divisions. How useful for the ADF to have a FOB that can self-deploy along the seaward flank of an AO, at the rate of 500 kms in 24hrs to support operations ashore. As an afloat Headquarters the Commander and his Sub-Unit Commanders are co-located, which greatly assists in the preparation and issuing of orders. The Commander, through his C4I facilities, is able to remain responsive to changes within the AO and is therefore able to amend those orders, if required, to meet the changed conditions ashore. *Manoeuvre from the Sea,* therefore provides the Commander with the ability to conduct a succession of operations into widely separated localities within the AO to either secure objectives or in preparation for the mounting of further tasks. In view of the increased mobility and flexibility afforded by *Manoeuvre from the Sea,* this significant Force Multiplier capability is worthy of serious re-evaluation by the ADF. This is especially relevant, in view of the increased mobility now being sought by Army in redefining it's 'Modus Operandi' as detailed in 'Army 21'.

However, the implementation of a rapid response capability from seaward into an AO using helicopters as the primary means, would require the employment of highly mobile combat troops with their own integral fire support weapons but supported from seaward and from the air. These forces would need to be well trained and highly capable if they were to provide the level of responsiveness such a capability demands. They would in effect become 'Marines' in all but name.

The ARA is therefore faced with the challenge of developing effective responses to a variety of scenarios in a timely and robust manner. As far as continental Australia is concerned the ARA not only has the challenge of providing an effective defence and response capability but must do so into a vast and rugged hinterland that is sparsely populated and has limited infrastructure. In the Offshore scenario, there is a need to deploy, lodge and support a land force onto isolated and distant territories. In similar style a response to provide support and/or assistance to a regional country to meet a variety of contingencies will require mobility and the ability to remain responsive to changing requirements. Such operations might be undertaken to secure an operating base, such as an airhead, as a precursor to conducting further operations. An effective means of responding to all of these scenarios will be through the deployment of amphibious forces, conducting *Manoeuvre from the Sea.* Whilst the ADF has developed and maintained a limited amphibious capability over the years, which included the forma-

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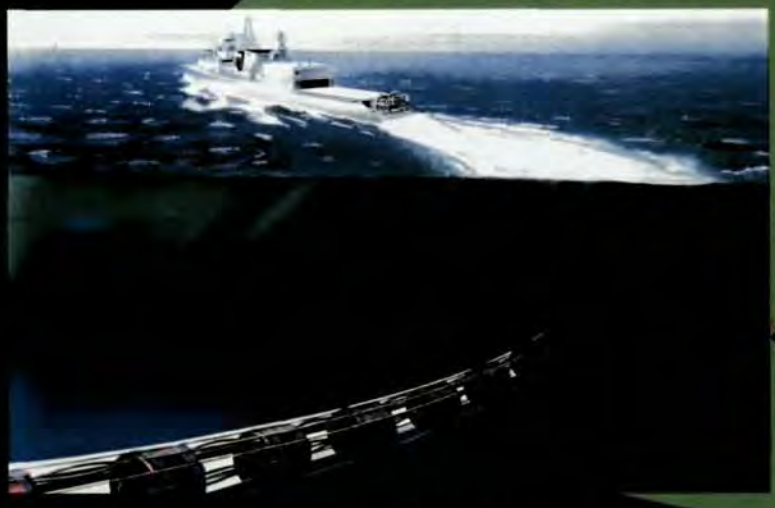

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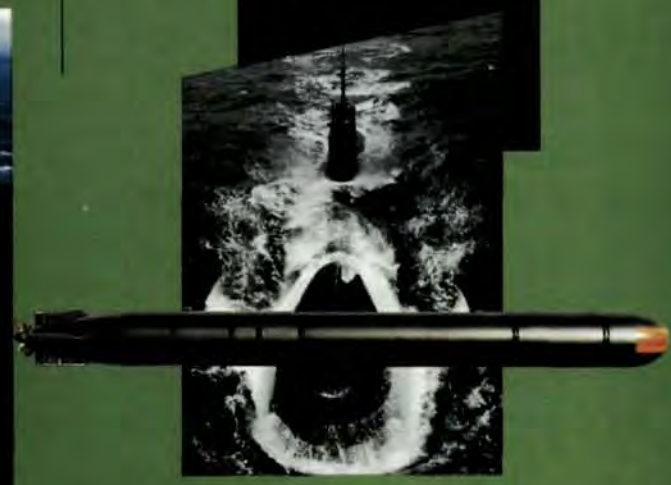

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tion and later disestablishment of the Australian Amphibious Squadron at HMAS MORETON in Brisbane, it has never been fully developed and its significant potential as a force Multiplier has never been realised.

It is considered that the development and application of such a useful Force Multiplier Capability is entirely relevant to a majority of ADF contingencies and indeed should, as 'the classic 'Joint Operation' become a key element for the further development of this capability. *Manoeuvre from the Sea* enables **response forces** to operate from seaward on a very fluid and mobile basis and to be supported on a protracted basis, if required.

A key attribute of Maritime Power is *Poise* which allows that '...Once in theatre, maritime forces can remain on station for prolonged periods, either covertly or more openly. They can keep options open or signal political resolve, and act as a force for deterrence or active coercion. Poise exploits mobility, versatility, sustained reach and lift capacity.[4]' The reader will no doubt be aware of a number of operations, such as the recent USN/USMC evacuations of US and other foreign nationals from Liberia, that have been so conducted worldwide, in recent years. '...Operations ashore will usually be joint, requiring effective cooperation and a clearly understood command structure. Contribution to a ground campaign by specific manoeuvre operations from seaward can be used for envelopment, turning movements or infiltration and interdiction of key vulnerabilities ashore. Poising afloat, power projection forces can provide distraction by tying down a disproportionate number of enemy forces in defending a coastline thus rendering them unavailable for other operations[5] ( e.g embarked US Marine Force standing off Kuwait prior to the commencement of the Ground War during Operation Desert Storm).'

The development of an Amphibious capability by the ADF has in recent years been bedevilled by a general lack of understanding and some deep seated Single Service reservations to this capability. Australian Amphibious doctrine has therefore remained largely moribund and limited to the conduct of occasional set-piece Amphibious Tactical Lodgments (ATL's), usually during major Joint Exercises, such as the Kangaroo series. This has greatly detracted from the flexibility and force multiplier capability inherent to this style of operation. Whilst there will always be a need to plan and prepare for set piece amphibious operations, the opportunity should now be taken to expand upon the concept of *Manoeuvre from the Sea* and to develop it as a key ADF Defence capability. Provided the correct level of Strategic imperative was attached to the development of a more flexible and responsive form of Amphibious capability than has hitherto been the case, there is considerable potential to provide the ADF with a significant responsive and flexible capability to meet a variety of scenarios. As the classic 'Joint Operation' it is wholly relevant to Australia's Defence and Geo-Strategic situation within the region, where flexibility and a high degree of mobility and responsiveness is required.

It is axiomatic that whilst Marines worldwide, well understand the business of operating ashore into an AO from seaward, the ADF, which lacks such a body, arguably has a significant need for such a capability. Whilst the formation of an Australian Marine Corps would provide the core of an optimum mobile and responsive capability able to operate from seaward, the ARA has over the years consistently proven that it is quite capable of operating effectively in an amphibious role. However, the Amphibious option remains limited in its application and is somewhat the 'Ugly Duckling' within the inventory of ADF Military options. In the current climate of reassessment and review of strategic options it is therefore considered essential that the role of the amphibious capability be re-examined in totality from a strategic viewpoint and its current limited utility be expanded within the context of *Manoeuvre Warfare* and in particular *Manoeuvre from the Sea*.

A full assessment must therefore be made as to the extent to which amphibious warfare, as a function of Manoeuvre Warfare, can contribute as a Force Multiplier in the Defence of Australia and within the region. Such a review should encompass the development of a concept of Amphibious operations as well as the application of resources and the training of those forces involved. The further development of an amphibious capability would however need to be undertaken by a Joint Project Team in order to ensure that all aspects of this capability were adequately addressed. This team would also be able to provide COMAST/COMFLOT with the necessary level of specialist advice and capability to ensure that the full utility of *Manoeuvre from the Sea* was optimised.

The need for an ADF amphibious capability to be jointly managed is further reinforced by the need to coordinate the necessary input into a wide variety of amphibious related projects that are currently being processed, mostly in isolation from each other. To be effective and viable the development of all current and future projects relating to an amphibious capability must be coordinated to ensure that all aspects are considered as part of a total capability. Indeed, in the amphibious context all Ship to Shore resources should be assessed collectively, in order that a balanced capability, encompassing all air and surface resources, can be developed. For example it would be important to ensure that the correct balance was achieved between surface and rotary Ship to Shore resources. It is envisaged that the same would be true of C4I as well as many other common-user requirements.

This is perhaps, not as formidable a task as might first appear but would require that the utility of *Manoeuvre from the Sea* be essentially acknowledged as a Strategic capability and that the profile of Amphibious Warfare be significantly raised by affording it the level of Strategic importance that it merits. It would then be possible to develop an ADF concept of Amphibious operations, which capitalised on the flexibility afforded by such operations. In terms of resources, the ADF has long maintained a limited amphibious capability, through the employment of such Naval units as HMAS *Tobruk*, HMAS *Jervis Bay*, the LCH's and NLE, whilst Army has maintained the LCM 8's and LARC's. However, it is in regard to the acquisition and development of their successors, such as the two newly acquired LST's (HMAS *Kanimbla* and *Manoora*), that all factors pertaining to their employment must be considered to ensure that in terms of *Manoeuvre from the Sea*, a total capability is developed. It should be noted that a significant Joint Capability existed prior to the dis-establishment of the Australian Amphibious Squadron, when the Squadron was located in Brisbane with 6 BDE. The proximity of HMAS *Moreton* to Enoggera Army Barracks enabled a considerable level of Joint training and Staff planning to be conducted. This resulted in a high level of interoperability and familiarisation being achieved between all involved Army and Naval elements.

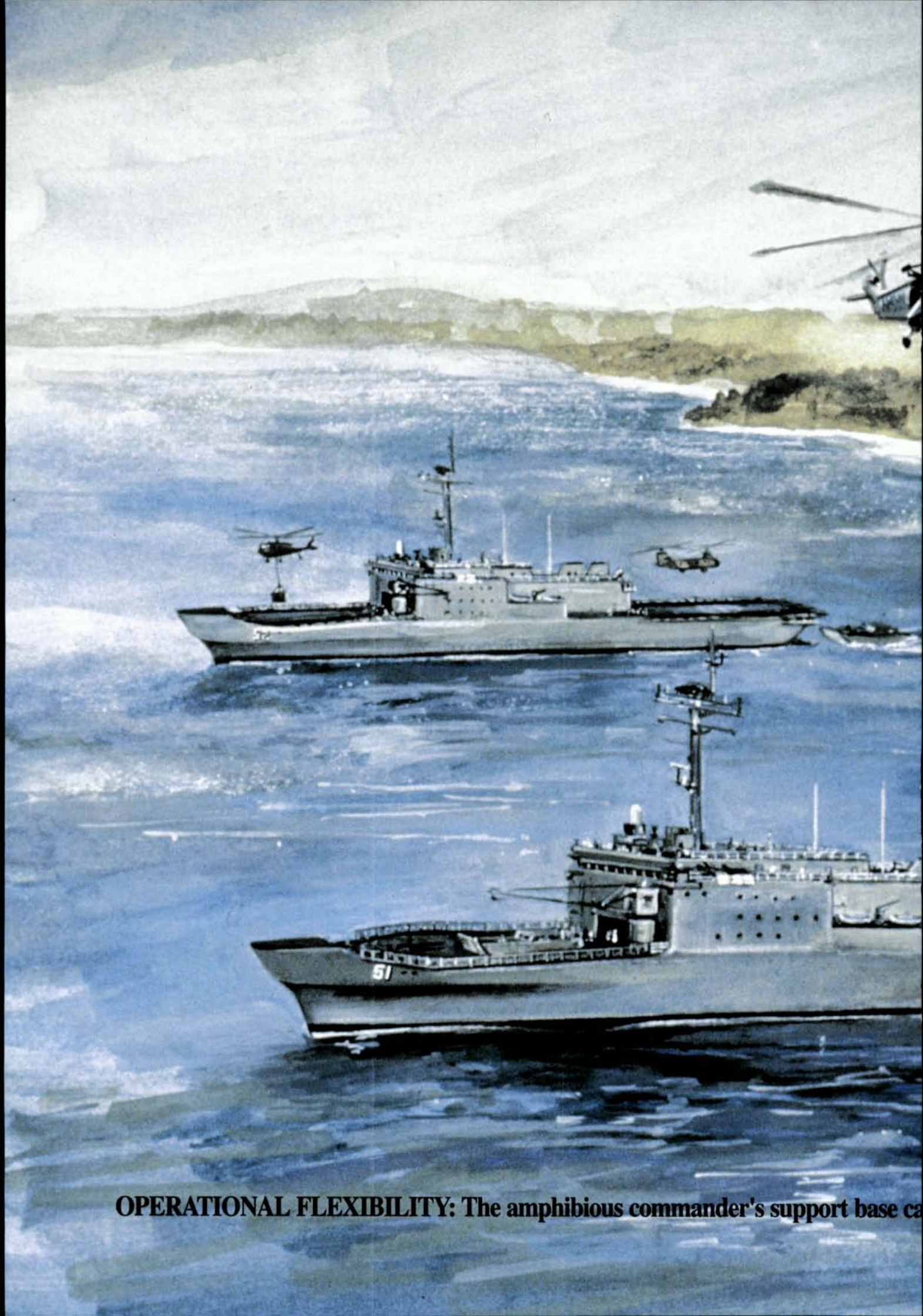
## CONCLUSION

The progression by many countries, towards a more responsive and integrated Joint Force comprising a balanced Force structure is indicative of the reliance now being placed upon the mobility and speed of response, afforded by *Manoeuvre Warfare* and in particular *Manoeuvre from the Sea*. In terms of maximising military options available to the ADF, in either responding to, or pre-empting an incursion onto Australian territory, it is considered that the versatility and Force Multiplier effect afforded by *Manoeuvre from the Sea*, is a capability that the ADF can no longer afford to ignore. The ability to conduct limited amphibious operations in set piece scenarios has been consistently proven by the ADF since Exercise K81 but its full potential as a highly versatile and responsive Operation has yet to be realised. However, for the ADF to acquire such a capability, will require that the development of Amphibious Warfare be taken out of the Single Service arena and its future development guided by an HQADF sponsored Joint Amphibious Project team. The window of opportunity to develop this latent capability is now open and should be taken .

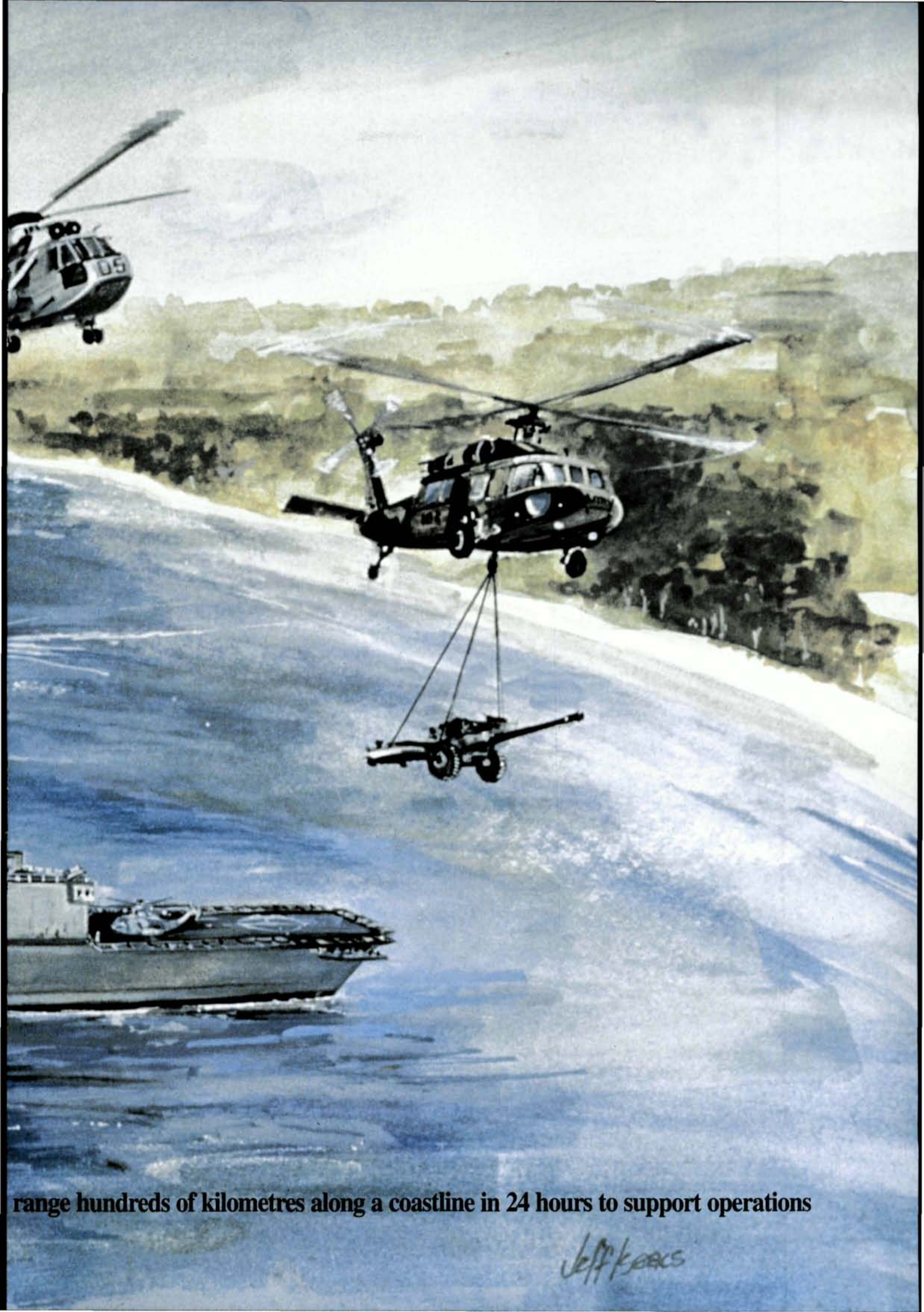
The concept of *Manoeuvre from the Sea* as a function of short warning conflict and/or contingency situations would provide the ADF with an enhanced capability to respond effectively to a wide variety of possible scenarios. *Manoeuvre from the Sea* affords the Joint Force Commander with the ability to use the coastal flank of a landward AO for manoeuvre, whereby elements of his Force can be inserted, reinforced or redeployed from the sea. **That his Forward Support Base can range hundreds of kilometres along a coastline in 24 hours to support operations ashore speaks volumes for the flexibility and logistic sustainment such a capability provides**.

In terms of an increase to Defence involvement within the region, the same attributes remain valid and indeed are enhanced by the significant force multiplier effect such capabilities would bring to

*HMAS* MANOORA



**OPERATIONAL FLEXIBILITY: The amphibious commander's support base ca**



range hundreds of kilometres along a coastline in 24 hours to support operations

many areas of the region. This is especially true of isolated areas that are lacking in infrastructure and support facilities. It is therefore of Strategic importance that the versatility and latent capability of a Sea-borne Joint Force capable of providing either Military or Humanitarian assistance, be recognised. The ability to undertake such operations, is however dependent upon the availability of appropriate Naval and other assigned Forces, with suitable amphibious and C4I capability. Whilst Landing Craft will always be required for the movement of heavier equipment and logistic resupply ashore, either through a Port or over a suitable beach as a LOTS operation, the primary means of movement ashore will be by helicopter. Helicopters provide the Commander with the most versatile and responsive movement capability but requires that all of the helicopter force is suitably marinised, so that they are able to support operations ashore on a fluid and highly responsive basis. Under these broader conditions Amphibious operations would be similar to Airmobile operations, except that they would be mounted and supported, from the sea.

A high level of amphibious planning and training would however be required to ensure that such operations could be planned and conducted on a fluid and responsive basis. Whilst this capability may not be relevant to every future ADF contingency, it is considered that as the 'classic Joint Operation,' *Manoeuvre from the Sea* provides the ADF with a sound basis for conducting the majority of ADF Joint Operations. As arguably the most complex of all Joint Operations and requiring the greatest levels of integration at all levels, this capability is regarded as vital. *Manoeuvre from the Sea* should therefore be adopted as a key ADF Strategic capability, to ensure that the ADF is able to respond quickly and effectively to any potential contingency that might arise within the region in the foreseeable future. However, the development of such a capability would require that the entire force was maintained at a high degree of preparedness, where the necessary levels of training and familiarity were conducted on a continual basis. This pre-condition would apply to all personnel, including Planning staff and would require that all such personnel be assigned on a permanent basis to the appropriate Joint Force.

## NOTES

[1] BR 1806 The Fundamentals of British Maritime Doctrine CHI 4

[2] Weekend Australian, May 18 1996, Rethinking our Defence, Paul Dibb

[3] Blitzkrieg from the Sea: Maneuver Warfare and Amphibious Operations by Captain Richard S. Moore, United States Marine Corps, Naval War College, Newport, RI (May 1983)

[4] BR 1806 The Fundamentals of British Maritime Doctrine CHI 3

[5] BR 1806 The Fundamentals of British Maritime Doctrine CHI 5

## About the author

*Lieutenant Commander John Robinson joined the Royal Australian Navy in 1985, after 18 years service with the Royal Marines (RM)). During his Royal Marines service he served as an Instructor at Commando School RM (1968-1971), Commanded Support Weapons Troops in 40 Cdo RM (1971 -1973), and 42 Cdo RM ( 1973 - 1976). He qualified and was appointed as Primary Forward Air Controller to 3 Commando Brigade RM (1976-1979), Commanded RM Security Detachment Clyde Submarine Base Scotland (1979-1980), and was appointed Second in Command/Operations Officer, Commachio Company (CT), Arbroath Scotland (1980-1982). Posted as RM Amphibious Instructor to AJWE (1982-1984). On return to UK, he was posted as Adjutant and Second in Command of Royal Marines, Deal, UK (1985) and has undertaken operational tours of duty in The Middle East, Northern Ireland and Belize and training exercises in many other countries. Since joining the RAN he has served twice with JEPS (1986-1988) (1992), Graduated from the Naval Staff College (1988), was appointed to Directorate of Naval Operations (DNO) as Staff Officer Joint Warfare (SOJW); then as Director Joint Warfare Navy (DJW-N) (1988-1991). He joined the Directorate of Submarine Policy and Warfare (DSMPW) as Assistant Director (ADSMPW) in Jan 1993. This is his first published article.*

# Under Two Flags

## The Amazing Career Of The Ironclad Ram *Huascar*

by

**Graham Wilson**

The Chilean naval base of Talahuano is located on the tranquil and picturesque Bay of Concepcion. The calm waters of the bay provide a home in which the ironclad monitor *Huascar* enjoys a well-earned retirement following an exciting, not to say, turbulent service life. Gazing on the 130-year-old ship, spruce in her gleaming black-and-white paintwork, it is difficult to envision the old lady as the "stormy petrel" of the South American coast.

*Huascar* is a fine example of a low-freeboard ironclad turret-ram monitor and is a near relative to HMVS *Cerberus*, formerly the pride of the Victorian Navy and now ignominiously relegated to the role of artificial reef at Black Rock off the Victorian coast. The aim of this article is to introduce readers to the fascinating story of *Huascar* and, in so doing, acknowledge the unique place that this grand old ship occupies in naval history.

### The Beginning

*Huascar's* story began in 1864 when the Peruvian government, then fighting an undeclared war with Spain, decided to order a pair of ironclad, ram-equipped monitors from Europe to help redress the naval balance in the conflict. One order went to the Continent (later cancelled and transferred to a London firm of ship builders) and the other order was secured by the British firm of Laird Brothers of Birkenhead who persuaded the Peruvians to purchase a turret ship, rather than the casemate-type ship originally requested. The design chosen was the brainchild of Captain Cowper Coles, RN, a brilliant, if somewhat eccentric, nautical engineer who had lobbied the Admiralty for years to accept his designs for a low-freeboard armoured-turret ship. His designs were based on his experience with design and construction of gun rafts during the Crimean War.

Work commenced on the new ship late in 1864 and she was launched in September 1865. Named after the last of the great Inca emperors, *Huascar* (pronounced 'wuss-carr') was a formidable ship for her time. With a length of 196ft and a beam of 35 1/2ft, she displaced 1,130 tons and drew between 15 and 16ft. Her iron hull was sub-divided into four watertight compartments and protected by a 4 1/2in-thick armoured belt amidships which tapered to 2 1/2in at the bow and stern. She was armed with two 10in guns (rifled muzzle-loaders firing a 300lb projectile) in a manually operated turret with 5 1/2in armour. In addition, she mounted a 40pdr swivel pivot-gun on the poop. For command and pilotage she had a conning tower with 3in armour. Simple condenser jet engines, for which 300 tons of coal were carried, worked a single four bladed screw which gave a notional top speed of 11 knots. As was customary with early steam powered vessels, *Huascar* was also fitted with a sail-rig, in her case brig, to assist on long sea passages. Finally, her bow was shaped and strengthened for ramming.

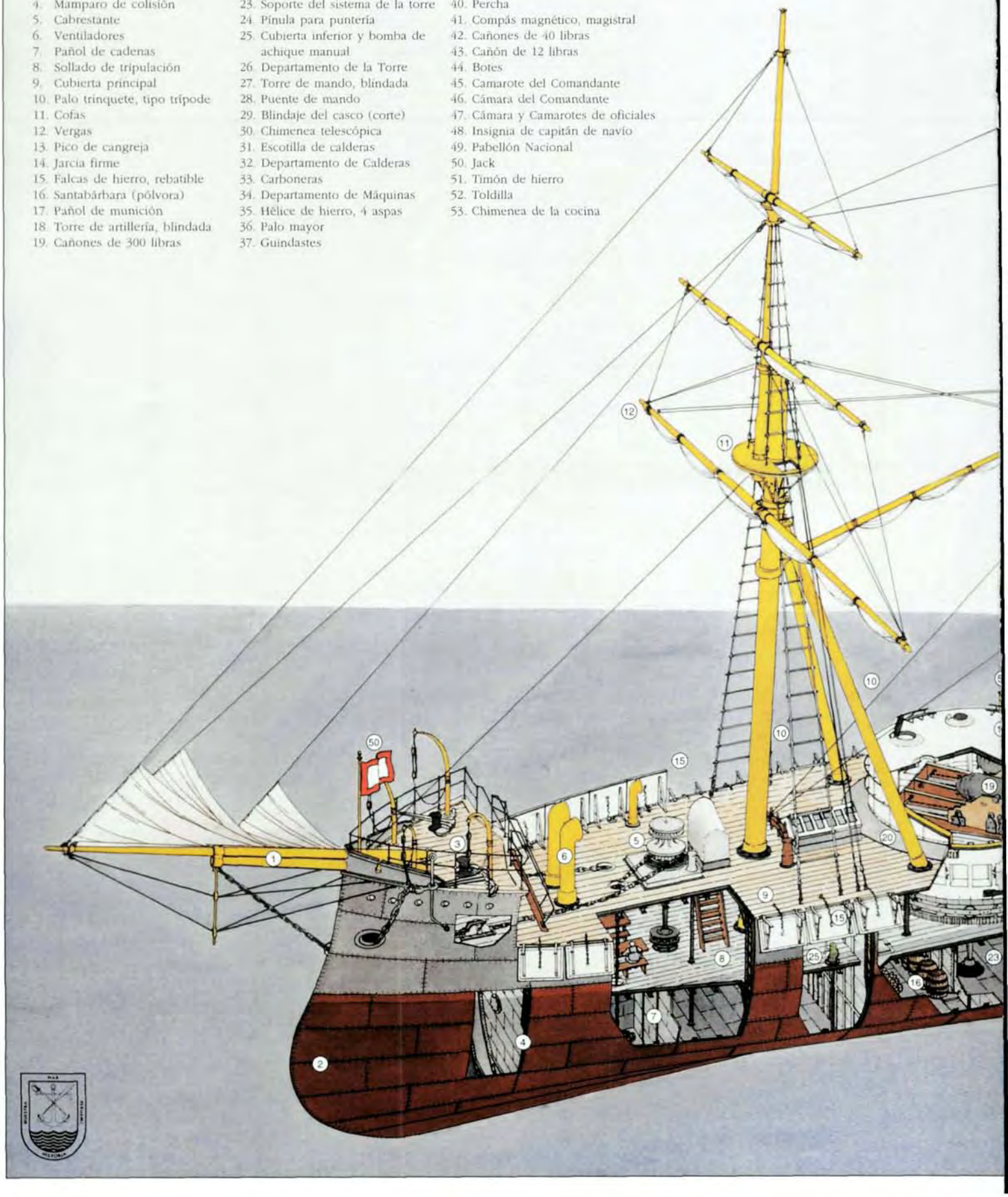
Following her launching, she proceed on sea-trials in which she proved to be a good seaboat, achieving a top speed of 12 1/4 knots on speed trials. She was handed over to the Peruvian government at the end of 1865 and steamed down the Mersey enroute for Peru on 17 January, 1866. She sailed without stores or ammunition and with only a skeleton crew as her builders were anxious to get her away lest she be interned under the *Foreign Enlistments Act* in the event of formal hostilities being declared between Spain and Peru. Crossing the Channel, *Huascar* rendezvoused with *Independencia*, a 2,004-ton casemate, central battery, ironclad steam frigate built by Samuda Brothers on the Thames, and the steamer *Thames* which had been leased as a supply ship and was loaded with coal and supplies.

The three ships departed on their long voyage in convoy. It was an eventful trip which included: a collision between *Huascar* and *Independencia*; the loss of a propeller blade by *Huascar*; the capture and destruction of three Spanish merchant ships off the coast of Brazil; and a passage around Cape Horn in a force-10 gale. It is a testimony both to the qualities of the ships and to the skills of the crews that they managed the long trip from the Channel to the Pacific Coast of South America without either foundering or experiencing major damage or any loss of life.

As it turned out, *Huascar* and her sister did not engage in any combat with the Spanish fleet. It is highly probable, however, that the arrival of these two powerful ships in Peruvian waters went a long way to persuading the Spanish admiral Mendez Nunez to abandon his blockade and withdraw to Cuba. Following this, *Huascar's* career, movements and activities for the next few years are a bit of a mystery. She was apparently something of a political pawn in the numerous internal Peruvian power struggles of the time

# EL GLORIOSO M
## 18

1. Bauprés
2. Espolón
3. Castillo de proa y anclas
4. Mamparo de colisión
5. Cabrestante
6. Ventiladores
7. Pañol de cadenas
8. Sollado de tripulación
9. Cubierta principal
10. Palo trinquete, tipo trípode
11. Cofas
12. Vergas
13. Pico de cangreja
14. Jarcia firme
15. Falcas de hierro, rebatible
16. Santabárbara (pólvora)
17. Pañol de munición
18. Torre de artillería, blindada
19. Cañones de 300 libras
20. Glacis de protección
21. Manizuela para girar la torre
22. Rueda de gobierno en combate
23. Soporte del sistema de la torre
24. Pínula para puntería
25. Cubierta inferior y bomba de achique manual
26. Departamento de la Torre
27. Torre de mando, blindada
28. Puente de mando
29. Blindaje del casco (corte)
30. Chimenea telescópica
31. Escotilla de calderas
32. Departamento de Calderas
33. Carboneras
34. Departamento de Máquinas
35. Hélice de hierro, 4 aspas
36. Palo mayor
37. Guindastes
38. Amuradas fijas, de madera
39. Rueda de gobierno principal y compás
40. Percha
41. Compás magnético, magistral
42. Cañones de 40 libras
43. Cañón de 12 libras
44. Botes
45. Camarote del Comandante
46. Cámara del Comandante
47. Cámara y Camarotes de oficiales
48. Insignia de capitán de navío
49. Pabellón Nacional
50. Jack
51. Timón de hierro
52. Toldilla
53. Chimenea de la cocina



# ONITOR HUASCAR

## 65


CARACTERISTICAS PRINCIPALES
Eslora 195 pies (59.44m)
Manga 35 pies (10.67m)
Puntal 20 pies (6.10m)
Calado 15 pies (4.57m)
Desplazamiento 1,745 tons.
Nº de calderas 2
Presión 25 libras

Máquina, horizontal, de biela indirecta
Potencia 1,640HP
Capacidad de carbón 300 tons.
Velocidad 12.27 nudos
Casco de hierro
Artillería principal:
2 de 300 libras, avancarga, en torre
Artillería secundaria:
2 de 40 libras, avancarga
1 de 12 libras, avancarga
Coraza del casco 4.5" (11.43 cms.)
Coraza de la torre de artillería 5.5" (13.97) cms.)
Coraza de la torre de mando 3" (7.62 cms.)
Sistema de gobierno, a mano
Hélice de hierro, 4 aspas
Aparejo de bergantín

*Construido por LAIRD BROTHERS en Birkenhead, Inglaterra, en 1864 - 1865*
*Junto con la fragata blindada* Independencia, *cruzaron el Atlántico y Pacífico, por primera vez*
*Se integró a la Escuadra Aliada en San Carlos, Chile, junio 15, 1866*
*Llegó al Callao, por primera vez, en febrero de 1868*
*Su primer Comandante, el capitán de navío don JOSE MARIA SALCEDO*
*Su último Comandante, el contralmirante don MIGUEL GRAU SEMINARIO.*

and at various times was taken hostage by politicians, generals and adventurers out to make themselves masters of Peru. It was in this role that she was to find herself pitted against the Royal Navy in May 1877.

## The "Stormy Petrel" Versus Albion's Might

Nicolas Pierola, a deposed president of Peru on the run, returned secretly to Callao and on the evening of 6 May, 1877, boarded *Huascar* while her captain was ashore and persuaded the crew to throw in with him. With no qualified officer to command and no port where she could put in to reprovision and coal, *Huascar* embarked on a voyage of what can only be described as piracy as, with her impressive firepower, she held small port towns to ransom and stopped ships on the high seas to carry out compulsory "purchases". It was this latter habit which was to be Pierola's undoing as the stopping of the British mail-steamer *John Elder* and the press ganging of an engineer from another British ship put *Huascar* on a direct collision course with Her Britannic Majesty's Navy in the person of Rear-Admiral Algernon Frederick Rous de Horsey and his South American Squadron.

Admiral de Horsey had arrived at Callao in his flagship HMS *Shah*, a brand new 35- gun, unarmoured steam frigate, only a few days after *Huascar's* seizure and was immediately approached by British traders and businessmen crying for relief from the ironclad's depredations. Approaches to the Peruvian government elicited no more than a disavowal of responsibility and a declaration of piracy and offer of a reward for *Huascar*. The British admiral decided therefore to go in search of *Huascar* with a force consisting of his flagship and the unarmoured wooden corvette HMS *Amethyst*.

*Huascar* was run down off the little town of Ylo at midday on 29 May. The previous day, she had fought an inconclusive engagement with her sister ship *Independencia* in the harbour at Iquique which had resulted in nothing more than the death of one of *Independencia's* seamen and slight damage to her funnel. *Huascar* was getting up steam at midday preparatory to departing when the British ships were sighted. The log of HMS *Shah* recounts that *Huascar* was identified at 1315 and at 1332 the British crews were called to quarters for action with all batteries reporting cleared for action ten minutes later. Prior to commencing hostilities, however, Admiral de Horsey lowered a cutter and sent an officer across with an ultimatum calling on Pierola to surrender the ship and offering safe passage to a port of his choice for himself and his crew. Pierola refused and *Shah* opened fire at 1506.

The fight went on until 1745 but, although the British fire was telling and sustained, *Huascar's* low freeboard, shallow draft and skilful handling by members of her crew with precise local knowledge ensured that she was hardly damaged, despite being struck by between seventy to eighty heavy calibre projectiles. *Huascar's* armour, in fact, was only penetrated at one spot, by a round which struck the port quarter just above the waterline and killed one sailor and wounded another. The British efforts were hampered not only by the Peruvian ship's low freeboard, shallow draft and skilful handling, but also by the fact that she was constantly manoeuvred to place her between *Shah* and *Amethyst* and the town of Ylo which caused the British commander to order cease fire on a number of occasions.

Additionally, *Amethyst's* guns, though well served, were totally useless against the ironclad's thick armour.

But while no damage was done to *Huascar*, the same was true of her opponents, neither of whom received so much as a single hit on the hull. With her gunfire ineffective, *Huascar's* captain apparently decided to try to ram *Shah* as the British ship's log records that the ironclad began to close on the frigate at speed at 1713. In response to this move, the log of HMS *Shah* records that at 1714 the ship: "Fired Whitehead torpedo". This was an historic entry as it marked the first time that a free, as opposed to a "spar", torpedo had been fired in anger. Unfortunately (fortunately?), at the moment the torpedo was fired, *Huascar* turned away and put on speed and the torpedo was unable to catch her.

Half an hour later, the British ships ceased fire as darkness was falling and the Peruvian ship had steamed close under the town. A boat expedition was launched at about 2100 with the aim of destroying *Huascar* by use of a spar torpedo but the ironclad had managed to slip away. Two days later, she was surrendered to the Peruvian navy by the erstwhile president Pierola at Iquique.

This brief and almost bloodless battle is of great historical significance for three reasons, namely:

- it marked the last time that a wooden ship of the Royal Navy (*Shah*) went into battle against an ironclad;
- it marked the last occasion when a ship of the Royal Navy armed with trunnion mounted, muzzle-loading guns (*Amethyst*) went into action; and
- it marked the very first firing of a torpedo in action.

## The Pacific War

*Huascar's* career was quiet for the next two years but she was back in the news again in May 1879. In March of that year Chile went to war against Peru and her ally Bolivia over control of the rich nitrate fields of the otherwise inhospitable and undesirable Atacama

Desert. This conflict, which lasted from 1879 - 1884, is known as either the Pacific War or the War of the Pacific.

The Chileans had by far the stronger navy at the outbreak of the conflict including two brand new British built ironclads (*Almirante Cochrane* and *Blanco Encalada)*, two modern wooden corvettes (*O'Higgins* and *Chacabuco*), one older corvette (*Abtao*)and an ancient sloop (*Esmerelda*), backed up by a motley collection of gunboats and hastily converted merchant ships. Peru had *Huascar* and *Independencia*, plus two old American built monitors (*Manco Capac* and *Atahualpa* - Canonicus class monitors originally built, as part of a class of nine vessels, for the US Navy during the American Civil War), an old wooden corvette (*Union*) and a small gunboat (*Pilcomayo*), with a few converted merchant vessels as well. The Peruvian monitors were initially greatly feared by the Chileans but their low freeboard and slow speed quickly showed them to be useless in anything other than the most sheltered waters.

As soon as war broke out, the Chilean navy moved north to establish a blockade of the Peruvian coast, a move which robbed them of the opportunity of destroying the Peruvian fleet as it assembled at Callao. The Peruvian fleet for its part, after assembling, quickly steamed out with orders to break the Chilean blockade. *Huascar* and *Independencia*, under the joint command of Capitan Miguel Grau of *Huascar*, arrived off Iquique on 20 May, only to find the bulk of the Chilean fleet having departed for Callao in a belated attempt to destroy the Peruvian navy! Left behind at the mercy of *Huascar* were *Esmerelda* and an ancient gunboat, *Covadonga.*

Grau chose *Esmerelda* as his target and ordered *Independencia* to destroy *Covadonga. Esmerelda* was commanded by Arturo Prat, an intensely patriotic young lawyer turned naval officer. Prat realised that the odds against him were hopeless but decided to fight it out anyway and exhorted his crew to fight to the death and to keep the Chilean ensign nailed to the mast no matter what. He also tried to emulate *Huascar's* tactics against HMS *Shah* by keeping his ship between the ironclad and the town but was thwarted by a Peruvian horse artillery battery on the shore which kept the Chilean ship out in the bay.

On this occasion, while *Huascar's* shooting was no better than before, one of her shots managed to penetrate *Esmerelda's* engine room, disabling her. With his opponent helpless in the water, Grau now attempted to ram her but on his first attempt only succeeded in grazing the Chilean. As *Huascar* was passing down the side of his ship, however, Commandante Prat, sword and pistol in hand, leapt aboard the ironclad in a gallant attempt to take her by boarding. Only one other man was able to follow him and the astounded Grau, moved by this almost suicidal act of gallantry, called on Prat to surrender. Prat refused and when he shot and killed *Huascar's* signal officer who tried to disarm him, he and his companion were cut down by Peruvian rifle fire.

A second unsuccessful ramming attempt was now made but this also failed, as did a second Chilean attempt to board *Huascar* which was driven off by Peruvian Gatling fire. Finally, on the third attempt, *Huascar* succeeded, ramming *Esmerelda* amidships and crippling her. *Esmerelda* went down at 1210, her flags flying, her band playing and her guns still firing. Of her crew of 200, only 63 were rescued (the sail training ship of the Chilean Naval Academy today carries the name *Esmerelda* in honour of Arturo Prat, his ship and crew).

The Chilean gunboat *Covadonga*, meanwhile, on orders from Prat, had made good her escape. The other Peruvian ironclad *Independencia* went in pursuit but ran aground on a reef. Hopelessly stranded, she was easy prey even for the antiquated *Covadonga* which managed to set her alight and reduce her to a wreck. Thus, for the loss of a single old corvette, Chile had gained a proud naval tradition and dealt Peru a telling blow. Nevertheless, in an act of great compassion, the chivalrous Capitan Grau recognised the gallantry of his late Chilean adversary by returning Prat's sword and belongings to his widow.

As with the fight with *Shah* and *Amethyst*, the battle between *Huascar* and *Esmerelda* was of some historical significance. In this instance, the battle marked the last occasion in which a purpose built ram carried out a successful ramming.

With the loss of *Independencia*, Grau, now promoted to Rear Admiral, took *Huascar* on a skilful and daring independent campaign of commerce raiding. During this campaign, from May to October, *Huascar* captured 17 Chilean ships, including a troop ship carrying a fully equipped cavalry regiment, broke the blockade at Iquique, destroyed the submarine telegraph cable at Antofagasta, bombarded shore installations, destroyed a desalinisation plant and fought a (winning) gun battle with an armoured troop train which resulted in the destruction of the train.

It is well worth mentioning that on 22 August, Grau attempted to emulate his late British adversary Admiral de Horsey by firing a torpedo, this time an American-built wire-guided Lay-type torpedo, at the Chilean ship *Abtao* in the harbour of Antofagasta. As with the torpedo fired at him, however, Grau's torpedo malfunctioned, though this time somewhat more dramatically as the torpedo actually turned around and shot back towards *Huascar.* The ship was only saved by the last second action of a junior officer who, incredibly, dived overboard and managed to push the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# HMAS *ANZAC*

torpedo away from the ship's stern. Admiral Grau was so disgusted at the performance of the Lay torpedoes that he had them removed from his ship and buried in a local cemetery.

Time was fast running out for *Huascar* now, however, as the Chilean navy, under a new commander with strict orders to hunt the Peruvian ironclad down, closed in on her. On 8 October, *Huascar*, in company with *Union*, was steaming off Antofagasta when three columns of smoke were sighted to the west just after dawn. These were from a Chilean squadron comprising *Blanco Encalada*, *Covodonga* and *Mathias Cousino*. Grau immediately ordered a course change and began zig-zagging in an attempt to outrun the Chileans, who were soon joined by a second and faster squadron comprising *Cochrane*, *O'Higgins* and *Lao*. His efforts were to no avail and by 0900 he was forced to order *Union* to break off and seek safety in nearby Arica as *Cochrane* and *Blanco Encalada* began to close on *Huascar's* port and starboard bow respectively.

At 0910, Grau sent his men to quarters and ordered the battle ensign, which had been embroidered by the ladies of Truxillo, to be hoisted. The action opened off Punta Angamos at 0925 with *Huascar* firing on *Cochrane* at a range of 3,000 yards, scoring a hit on the Chilean's galley. The Chileans held fire until they had closed to within 1,500 yards then unleashed a broadside of their new Palliser armour-piercing shells. A general maritime melee quickly developed in which *Huascar* was at one point temporarily put out of action by a shell which exploded in the turret training chamber, killing twelve men and clogging the training mechanism with bodies. In the course of the battle, *Huascar* managed to score a hit which penetrated *Cochrane's* casemate to wreck one of the Chilean's guns and kill its crew, but the Peruvian was unsuccessful in an attempt to ram her opponent and any advantage accruing from the hit on the Chilean was negated as *Blanco Encalada* came within range and began firing at *Huascar* from her port beam.

Caught between the cross-fire of the two Chilean ships, *Huascar* first lost her commander, Admiral Grau, who was blown to pieces by a shell which struck the conning tower, and then lost four more commanding officers in rapid succession as they were shot down, command finally devolving on the only surviving junior officer, Second Lieutenant Garezon. The ship's new captain managed to ensure that the Peruvian colours remained flying and even put together two scratch gun crews after a Chilean shell exploded in *Huascar's* turret, killing both regular crews. The end came, however, when Garezon ordered the helm put over in a last attempt to ram *Cochrane*. The quartermaster, the fourth one to man the helm during the battle, reported that the ship did not answer and it was quickly ascertained that *Huascar's* steering chains had been shot away and the ironclad now wallowed helpless in the swell. Not only had she lost her steering, but her remaining operable gun was now silent, its tackle clogged with dead and wounded, and her engine room was wrecked, with one boiler burst and the other out of action. The Chileans now launched boats with boarding parties who were able to prevent *Huascar's* engineer from scuttling her and in short order the Peruvian flag was lowered and replaced by the Chilean ensign.

The 90-minute action had resulted in the deaths of 80 of *Huascar's* 200 crewmen and the ship's armour had been penetrated by at least twenty 9-inch Palliser shells. The Chileans, on the other hand, had suffered twelve dead and little damage.

The Chileans towed *Huascar* to Mejillones for repairs and while there she was inspected by a party of officers from the USS *Pensacola*, a cruiser from the American Pacific Squadron. The American officers were particularly interested in the effect of the Palliser armour-piercing rounds and concluded, not surprisingly, that *Huascar's* armour had not been thick enough to withstand rounds of that calibre at that range. They also noted that the failure to protect *Huascar's* steering chains after their vulnerability had been revealed following the earlier fight with HMS *Shah* and *Amethyst* was a fatal oversight.

Following repairs, *Huascar* re-entered the fray, but this time under Chilean colours. She took part in the bombardment of Callao and not long after fought an inconclusive duel with the Peruvian monitor *Manco Capac*. During the latter operation, *Huascar* lost another commander when Captain Manuel Thomson was killed on her bridge and the ship was holed below the waterline by a Peruvian shell but was saved by her watertight compartments. Repaired yet again, she served the Chilean fleet until the end of the Pacific War in 1883.

## The Chilean Civil War And After

After the Pacific War, *Huascar* managed to lead a fairly uneventful ten years but in 1893 was back in battle once again, this time as a unit of the Congressionalist fleet during the Chilean Civil War (1893). In accounts of this conflict, she is often erroneously noted as having been present in Caldera Bay when two Balcemedist torpedo boats, *Almirante Lynch* and *Almirante Condell*, entered the bay and sank *Blanco Encalada* with a Whitehead torpedo, marking, finally, the first successful use of this type of weapon in history.

Luckily for the Congressionalists, *Huascar* was actually not present in Caldera Bay on this historic occasion and thus probably escaped destruction at the

*Continued page 57*

# MARITIME TENSIONS IN THE SOUTH CHINA SEA: WHAT INTERESTS ARE DRIVING THESE DISPUTES?

**By Lieutenant Commander Mike McArthur MA RAN**

This article examines wider maritime tensions in the South China Sea and the influences that precipitate these tensions. The article will analyse the various territorial claims to the region, in particular China's unilateral claims to the sea and islands. The disputed claims to the Spratly Islands will be used to exemplify maritime tension throughout.

Shephard, in his analysis *Maritime Tensions in the South China Sea*, remarks that it is '...vitally important to understand the context within which the disputes are arising and the causes that are acting as a catalyst to precipitate tension'.[1] As regional security is the foundation upon which maritime tension and the potential for conflict can occur, the analysis commences with an examination of the impact of the post-Cold War security environment, the continuing role of the US in the region, the emergence of China as a regional power and the importance of US-Sino relations to South-east Asian regional security.

Focusing specifically upon the strategic and economic importance of the South China Sea, the paper will then address the wider nature of the various territorial disputes, in particular the many contested islands, gulfs and archipelagoes of the region. The tensions caused by the state of Sino-Taiwanese relationships and piracy will also be mentioned. The article will then specifically focus upon the claims to the Spratly islands. After a brief look at the Spratly claimants, the analysis will concentrate on two specific issues, (1) the regional arms build-up and (2) the problems and ambiguities associated with international law and the law of the sea convention. Sovereignty, maritime jurisdiction and how to deal with the many overlapping claims to the islands will be addressed in detail. Solutions to the problems will also be introduced and discussed.

Finally, the annual meeting of the Association of South East Asian Nations (ASEAN)[2] held in July 1995 proved to be a perfect vehicle to introduce and discuss the more recent developments regarding sovereign claims to the islands. The meeting revealed a number of advances in regional dialogue and security that specifically addressed the problems of maritime tensions in the South China Sea region[3]; an analysis has therefore been included. The article concludes with a look at the future role of regional dialogue and how effective it may be at reducing maritime tension in the region.

## The Post-Cold War Security Order: New Challenges

The end of the Cold War security order in Asia has been accompanied by new factors of potential conflict and instability in the region. Acharya, in his article *A New Regional order in South-East Asia: ASEAN in the Post-Cold War Era*, remarks that '...the global changes resulting from the end of the Cold War have yet to register fully on the regional balance of power in Asia'.[4] He also observes that the scramble by regional powers seeking to step into the 'vacuum' left by departing superpower forces has emerged as a major source of concern for Asian states.[5] The shift from superpower to regional power rivalry forms the basis of current security debates within the region and that '...important new uncertainties have emerged about the future strategic situation in Asia'.[6] The question remains: Will the post-Cold War milieu see an unleashing of conflicts which were effectively frozen or suppressed during the colonial era and the subsequent period of superpower rivalry? Certainly some South-east Asian policy makers already view a number of recent developments, especially conflicting claims to islands in the South China Sea as a new phase of regional disorder. As two prominent European analysts also observed, '...the break-up of the superpower overlay allows, and indeed compels, local patterns of amity, enmity and balance of power to reassert themselves'.[7]

The territorial disputes in the South China Sea, including conflicting claims to the Spratly Islands are indicative of the challenges that are facing the post-Cold War regional order in South-east Asia. It is, however, the uncertain strategic climate caused by the retrenchment of superpower forces and the prospects and implications of a regional power vacuum which


*Illustration provided courtesy of New Zealand Defence University, Autumn 1996*

is becoming increasingly important to the security thinking of South-east Asian nations. Central to these thoughts are two main concerns. First, is the continuing presence (and role) of the US in the region and second, Chinese intentions, including the state of post-Cold War US-Sino relations. These concerns first need to be addressed.

## US Security Policy Towards East Asia

In many ways South-east Asia is fortunate. The transparency of US foreign policy provides the region with a clear indication of US intentions and post-Cold War concerns. In the Assistant Secretary of State to the Bureau of East Asian and Pacific Affairs address before the House International Relations Committee (Asia and Pacific Affairs Subcommittee) in June 1995, Ambassador Winston Lord stated that '...no region is more important to the United States...the most dynamic economies beckon...it is an area where America has abiding security interests'.[8] Clearly America remains committed to maintaining a presence in the region, to strengthening US bilateral alliances and to sharing the responsibility for maintaining regional and global security. The US considers that the universal view among countries in the region is that continued US presence will help maintain stability between historic rivals and potential antagonists. The bedrock of its security role, therefore, is US forward military presence.[9]

The South China Sea, in particular the continuing Spratly Islands dispute, is also of concern to the US who consider that contested claims to territory are potential sources of maritime tension which could carry serious consequences for regional stability. Whilst the US is willing to assist in the peaceful resolution to the disputes, the US takes no position on the legal merits of the competing claims to sovereignty to the islands. Nonetheless, the US remains seriously concerned with any claims or restrictions on maritime activity that are inconsistent with international law. Its strategic interests in maintaining sea lines of communication mean that it would resist any maritime claims beyond those permitted by the Law of the Sea Convention.

Finally, it is noted that US security strategy is cognisant of the fact that Asian tensions have the potential to erupt in conflict, with dire consequences for global security. As a result the strategy concludes that in a post-Cold War era, Asia remains an area of uncertainty, tension and immense concentrations of military power.[10]

## China and Post-Cold War US-Sino Relations. A New Regional Order?

Generating the most uncertainty for the region, however, is China, whose dramatic economic growth, continental size and central location in Asia, regional intentions and military capabilities all pose potential threats to its neighbours and the United States. ' As South-east Asian security dynamics are being dramatically transformed by the emergence of China as a power',[12] and 'as US military power will remain an inescapable component in East Asian security',[13] then the state of Sino-US relations will remain a key factor toward the South-east Asian post-Cold War security posture.

The end of the Cold War undoubtedly has been beneficial to China's national security. For the first time in its modern history China does not have an identifiable and pressing external threat. There still remains, however, considerable potential for conflict. China still looks warily at Japanese military capabilities and Taiwan's potential claim to independence remains one of China's greatest concerns.[14] Like Shambaugh, Segal also notes that China's ability to organise the fate of Taiwan is declining[15] and that the potential for conflict also exists over the disputed Paracels and Spratly Islands.[16] Importantly, China no longer encounters the same degree of military opposition that it faced during the Cold War in seeking to extend its territorial and maritime jurisdiction.[17] But in China's spectrum of potential threats, it is the US that currently looms the largest. Whilst not belittling the importance of ASEAN and its regional forums which are constantly developing and examining ways of 'maintaining a non-threatening balance of power in the region',[18] the state of US-Sino relationships, the foundation upon which South-east Asian security is based, remains of greatest importance.

Shambaugh states that the sale of fighter aircraft and frigates to Taiwan, regional arms sales, American pressure on trade transparency and the trade deficit, human rights and prison labour exports, among other issues, all contribute to the perception in Beijing of a hostile US. China remains most concerned that the US is trying to dominate a post-Cold War Asia through a strategy of 'erecting a new architecture' towards US hegemony. This architecture, Shambaugh argues, includes the creation of a multilateral security mechanism to reinforce US bilateral treaties, an aggressive free trade policy which aims to pressure Asian states into giving US traders an unfair advantage, and attempts to use human rights and democratisation as ruses to subvert unfriendly governments.[19] Certainly then, Beijing views US military forces in Asia as destabilising, inhibiting the multipolar order that China seeks to establish.[20]

It would be difficult to dispute that the Spratly Islands issue is not inimitably linked to regional concerns about the post-Cold War role of China. While China's modernising military establishment is still deficient in its power projection capabilities, its potential for operations in the Spratlys is already seen by

ASEAN states as the most significant challenge to the regional balance-of-power.[21] As ASEAN can only muster limited resources and influence in managing broader regional conflicts such as the Spratlys[22], the US is set to play a major role in the region in the foreseeable future.

**Comment**

No ASEAN leader could be sanguine about the changing regional balance of power. The ASEAN states preferred approach to regional order seems to lie in the maintenance of a regional balance of power, underpinned by the superior and forward-deployed military resources of the US capable of deterring Chinese regional ambitions.[23] The current situation and indicators within the region seem to advocate old fashioned balance of power mechanisms and in the ASEAN states' view this concept remains critical to the prospects for regional order in the post-Cold War era.[24] The ASEAN countries want a power balance in the region hence their continuing interest in a US presence and their emphasis on the need for US military commitment.[25] A recent editorial in *The Bangkok Post* certainly supports this assessment and acts as a further reminder of the importance and influence this relationship has in the area. Lamenting over the fact that the US and China dragged their differences over human rights and Taiwan to the recent ASEAN meetings in Brunei, it concluded by saying that ASEAN and the region are '...directly affected by US-Sino relations' and that '...the United States must continue its presence in all of Asia, including Southeast Asia'.[26] Beijing's security considerations after the Cold War are continually being defined by its domestic priorities, growing foreign economic relations and by the new ASEAN security environment, including associated concerns over territorial disputes.[27] The end of the Cold War certainly has changed China's basic perception of world politics and its conception of national politics. Whilst Beijing's thinking on security is becoming more inclusive and diverse the United States '...will carefully watch the emergence of China on the world stage and support, contain, or balance this emergence as necessary to protect US interests'.[28] The state of the US-Sino post-Cold War relationship, therefore, will continue to play an important role in the South-east Asian security environment.

## Maritime Tensions

Notwithstanding the importance of US-Sino relations, the ASEAN security environment will be tested and influenced in many other ways. These influences include (1) the strategic and economic importance of the area, (2) the economic emergence of China, (3) China and ASEAN's military modernisation programmes, (4) regional claims to the South China Sea including the sovereignty and delimitation issues associated with the disputed islands and archipelagos, and, finally (5) the ability of ASEAN to address these issues and concerns through multilateral regional dialogue. All these concerns are considered to be major factors which either contribute towards or help lessen

**Figure 1: Sovereignty, Legitimacy and Territorial Conflicts**

- Competing Russian and Japanese claims to the southern Kuril Islands or "Northern Territories":Kunashiri,Etorofu and Shikotan islands.
- The unresolved dispute between Japan and South Korea over the Lian Rocks (Takeshima or Tak-do) in the southern Sea of Japan.
- Divided sovereignty on the Korean peninsula, where some 1.4 million ground forces of the Republic of Korea andNorth Korea remain deployed across the demilitarised zone (DMZ).
- Competing claims to sovereignty of the Chinese regimes on mainland China and Taiwan.
- The unresolved dispute between Japan and China over the Senkaku (Diaoyutai) Islands in the East China Sea.
- The armed communist andMuslim insurgencies in the Philippines.
- Thecontinuing claim of the Philippines to the Malaysian state of Sabah and its adjacent waters.
- The strong separatist movement in Sabah.
- Competing claims to the Paracel Islands in the South China Sea, contested by China and Vietnam.
- Competing claims to the Spratly Islands in the South China Sea,contested by China, Vietnam, Brunei, Malaysia, Taiwan and the Philippines.
- Border disputes between China and Vietnam.
- Boundary dispute between Vietnam and Indonesia on their demarcation line on the continential shelf in the South China Sea, near Natuna Island.
- Border disputes between Vietnam and Cambodia.
- Boundary dispute between Vietnam and Malaysia on their offshore demarcation line.
- The Bougainville secessionist movement in Papua New Guinea.
- The Organasisi Papua Merdeka resistance movement in Irian Jaya.
- The continuing resistance to Indonesian rule in East Timor.
- The Aceh independence movement in Northern Sumatra.
- The dispute between Malaysia and Singapore over the ownership of Batu Putih Island some 55km east of Singapore in the Straits of Johore.
- The competing claims of Malaysia and Indonesia to the Sidapan, Sebatik and Ligitan Islands in the Celebes Sea.
- The border dispute between Malaysia and Thailand.
- Residual conflict in Cambodia.
- Continued fighting between government and resistance forces in Laos.
- Residual communist guerilla oerations along the Thai-Lao border in north-east Thailand.
- Border conflicts between Thailand and Myanmar
- The Shan, Kachin, Karen secessionist, communist insurgent and pro-democracy rebellions in Myanmar.
- Insurgency in Bangladesh.
- Hostilities along the Myanmar-Bangladesh border.
- Territorial disputes between China and India.

Source: 'Arms and Affluence' by Desmond Ball. (In vol 18 no 3 of *International Security*, Winter 1993-4.

the wider maritime tensions in the area. Focusing on the Spratly Islands dispute generally, and on Chinese claims specifically, these concerns will now be addressed.

## Territorial Disputes and the South China Sea

Asia has a large number of unresolved territorial claims. At Figure One, entitled *Sovereignty, Legitimacy and Territorial Conflicts*,[29] is a short summary of current regional Asian conflicts and concerns. It is not, however, exhaustive but rather indicative of the scale and of the potential seriousness of the concerns facing the region. Although these issues are not restricted to maritime conflict in the South China Sea, the idea that Asia is an area characterised by harmonious economic and intra-region relations is not true. Figure One certainly belies the image of a peaceful Asia.[30]

The disputes vary in intensity, but from the point of view of regional order, Dibb notes that the most serious concern is that over one-third of the disputes in east Asia are over maritime boundaries and off-shore territorial claims. In South-east Asia these territorial disputes represent fundamental threats to territorial integrity. They remain sources of '...tension, suspicion and misunderstanding particularly where military forces of rival claimants operate in close proximity to each other as they do in the South China Sea'.[31]

Looking at Figure One and Diagram Two, it could be argued that the whole of the South China Sea is practically under dispute including the two gulfs and the four major archipelagos.[32] The Spratlys and Paracels for example are just two potential flash points which present a threat to the stability and development of countries in the region[33] (these will be discussed in detail later on in the paper). They are undoubtedly a challenge to regional security. The key nation in the region is the Peoples Republic of China (PRC) and regional order will almost certainly be based on an accommodation to Chinese interests.[34]

While the Spratlys are the most publicised territorial dispute in the South China Sea they are certainly not an isolated case. Before discussing the Spratly claims, however, it is important to be cognisant of some of the wider maritime problems within the region. Whilst it would be impossible to analyse all the tensions and territorial claims, a brief outline detailing the maritime tensions associated with the disputed gulfs, archipelagos and islands of the South China Sea (including the problems caused by piracy) is provided. A short comment on the maritime tensions created by Chinese claims to ownership and reunification of Taiwan is also mentioned. The wider maritime concerns of the South China Sea which focus primarily on the Spratly Islands dispute and their Chinese, Taiwanese and ASEAN claimants will then be addressed.

**The Paracels**. Currently occupied by China,[35] the Paracel Islands lie along the important Singapore-Hong Kong trade sea route. Both Vietnam and Taiwan dispute ownership of these islands. All three nations have historical links to the group and base their claims on historical grounds.[36] The primary importance of the Paracels rests with their strategic value.[37] This is exemplified by the Chinese construction of an airfield on Woody Island which, along with the development of an air-to-air refuelling (AAR) capability and the 'maritimisation' of its air force, has strengthened its presence in the northern and central part of the South China Sea.

**The Pratas Archipelago**. The Pratas archipelago is located 370 kilometres southwest of Taiwan and is currently occupied by Taiwan. The archipelago consists of one island and a number of sandbanks. The Pratas are also claimed by China and like the Paracels, their claimants' interests also appear to be based upon strategic considerations.

**The Natuna Archipelago**. Natuna is claimed and occupied by Indonesia. The disputed area lies to the north of the Natunas where the Indonesian Economic Exclusion Zone (EEZ)[38] overlaps the Vietnamese EEZ by some 160 km. Oil exploration rights to the area have already been granted by both Indonesia and Vietnam. In addition, Chinese territorial claims also appear to encroach upon Indonesian claims.

**The Gulf of Thailand**. Tensions, territorial disputes and overlapping claims currently exist between China, Taiwan, Cambodia and Vietnam over the Gulf of Thailand. Whilst this body of water is of strategic significance, the most important interest here is economical, both for fishing as well as for potential oil and gas sources.[39]

**The Gulf of Tonkin**. The second gulf under dispute is the Gulf of Tonkin. Shephard notes that at the heart of this disagreement is the inability of Vietnam and China to conclude a mutually satisfactory north-south line of demarcation between Hainan Island and the Vietnamese coast. Both countries also dispute oil drilling rights in this area.[40]

**Taiwan**. Due to the complexity and size of the problem it would be impossible in this study to discuss in detail the tensions between China and Taiwan and the possibility of maritime conflict between the two. (See February/April 1996 issue of JANI for such a discussion —Ed.) However, Ma Yuzhen, the PRC's Ambassador to the UK, in a letter to The Economist titled *Coaxing China*,[41] provides a very succinct and clear insight regarding China's intentions towards reunification of Taiwan.[42] Refuting that China is 'po-

tentially a source of huge instability' and 'the real source of current tension', he claims that it is interference in China's internal affairs, in particular Taiwanese independence and human rights, that constitutes the true source of current tension. He reiterates that Taiwan is an inalienable part of China and that the question about its future is entirely an internal affair. Ma states that China remains firmly opposed to any attempts aimed at creating 'two Chinas' and stresses that the Chinese government will not sit idle if Taiwan declares independence.

Ambassador Ma's concise words of warning reiterating China's stance on Taiwan, the tension created by the recent visit of Taiwan's President Lee to the US and Chinese missile test-firings to the north of ROC in early August 1995 are all clear indicators that the question of Taiwanese independence will remain a heated source of tension within the ASEAN region and beyond for some time to come. This tension and its effects upon the ASEAN region must be acknowledged as a potentially major source of conflict that may affect the South China Sea area in the future.

**Piracy**. Piracy, though obviously not a territorial dispute, indicates a lack of law and order in the maritime environs of South-east Asia and acts as a source of maritime tension within the region. [43] To date, like other areas of intra-ASEAN security cooperation, the regional response to piracy has been undertaken on a bilateral basis, mainly between Indonesia and Singapore (arguably because the most visible acts of piracy occur in the congested waterways of the Malacca Straits, Prince of Wales Channel and surrounding seas adjacent to these two states). Notwithstanding, the entire South China Sea region is plagued with reports of piracy and banditry which occur not only on the high seas but also within ASEAN states' territorial waters.

Pleasingly, however, as a result of the joint Indonesian-Singaporean patrols, reported acts of piracy in their area have declined. Acharya notes that as a result of this success a multilateral approach to combating piracy might also prove useful in expanding the scope of existing bilateral defence links within Asia and could be used as a building block for more elaborate forms of regional military cooperation.[44] This is agreed. Nonetheless, in true Asian form, such multilateral efforts will take time (if ever) to materialise. In the meantime, the eradication of piracy remains a major concern for all seafarers who transit and trade on the waterways of the South China Sea.

## The Spratlys

As previously mentioned, the South China Sea contains four main archipelagoes, including the Spratly Islands (Nansha)[45], the Paracel Islands (Xisha), the Pratas Islands (Dongsha) and the Scarborough Shoals (Zhongsha) (see Diagrams One and Two).[46] The largest of the four is the Spratlys, which consist of some 230 islands, reefs, shoals, and atolls. About 40 rise above the sea and fewer are inhabitable. The Spratlys lie 900 miles south of the Chinese island of Hainan, 230 miles east of the Vietnamese coast, 120 miles west of the Philippine island of Palawan and 150 miles north-west from the Malaysian State of Sabah.[47] The islands are scattered over an area of about 450 nautical miles east to west and about 530 miles north to south. China, Taiwan, and the ASEAN states of Vietnam, the Philippines, Malaysia and Brunei all claim sovereignty over all or part of the Spratly Islands. Today China occupies eight islands, Vietnam 25, Taiwan one, Malaysia four, and the Philippines eight.[48] The positions of some of these islands and reefs are shown on pages 46 and 47.[49]

The Spratly Islands claimants have strong strategic and economic motivations for coveting the islands. They are of considerable strategic and economic importance. Miller, in his article *The Maritime Importance of the South China Sea*, notes that the'...islands themselves are virtually worthless but their importance lies in their proximity to the shipping lanes and the strong possibility that there are oil and gas resources within their Economic Exclusion Zones'.[50] Although the initial claims to the Spratlys have been territorial in nature, Ambassador Lord rightly suggests that these claims'...have always had implications of control over the areas strategic location and its maritime resources particularly fisheries and offshore hydrocarbons. They sit aside sea lanes to the Middle East'.[51]

Notwithstanding the strategic location of the islands, the maritime resource dimension of the dispute is becoming increasingly important. The rush for 'Spratly oil' can simply be explained by the claimants' rapidly expanding economies and the need for a cheap and reliable source of oil to feed these economies. The economic and strategic concerns which predominantly influence the claims to the area are discussed throughout.

## The Spratlys and their Claimants

It must be remembered that the contested claims to the islands are complex. There exists no universal sea chart of the region indicating the clear boundaries of the Archipelago, nor does there exist a precise sea chart showing all the features. Indigenous names allotted to these features by each country, combined with the inaccuracy of charts and maps, also add to the confusion. Each country presents its case in a biased account and often omits relevant sources, statements or incidents of contesting claims in order to justify its own standpoint.[52] Finally, it is the ambiguity of historic records, which are seriously compromised by doubts surrounding the authenticity of the records themselves, that is of greatest concern.[53] Keeping

these considerations in mind, a brief description of each claim focusing specifically on most recent events is provided.

**China**

The PRC claims sovereignty over the greater part of the South China Sea which includes the whole of the Spratly group. The Chinese base this claim on historical evidence.[54] According to Chinese argument, it was the Chinese who discovered the islands and effective occupation is supposed to have taken place as Chinese fisherman, 'since time immemorial', lived on the islands and used the surrounding waters economically. The Chinese argue, like Judge Max Huber in the Island of Palmas Case[55] - that in order to claim valid title over territory a country must effectively occupy the land for an appropriate time to change its inchoate title to a permanent one. Chinese evidence of discovery, effective settlement and economic usage, therefore, has legitimised their sovereign claim to the islands.

In July 1987 China officially claimed the entire archipelago and in February the following year, Beijing (re)occupied its first Island: Fiery Cross.[56] After a brief military engagement with Vietnam in March of that year resulting in the sinking of three Vietnamese transport vessels and the deaths of 72 Vietnamese troops, the PRC subsequently occupied Subi Reef, Cauteron Reef, Nan Xun Jiao, Prince of Wales Bank, Lansdowne Reef, and Kennan Island. This is just one incident. The volatility of the situation in the region as a result of Chinese claims has resulted in many other reports of repeated incidence involving arrests and counterarrests with other claimant states, in particular Vietnam and the Philippines.[57]

Since March 1988 Beijing has continued to pursue its claims through less confrontational, though perhaps more confusing, methods.[58] In July 1991 the PRC moved to allay fears of Chinese hegemony among the regional states by participating in multilateral talks hosted by Indonesia in Bandung.[59] In an attempt to initiate a dialogue geared towards reaching a resolution to all of the competing claims to the Spratlys, senior officials and academics from the five claimant states, as well as representatives from Brunei, Indonesia, Laos, Singapore and Thailand, gathered to discuss alternative approaches to the management of potential conflicts in the South China Sea region.

The Bandung conference ended with the issuance of a joint statement by the participants declaring their commitment to the use of peaceful means for resolving their overlapping territorial and jurisdictional claims in the South China Sea.[60] The Bandung conference was hailed as a breakthrough principally because for the first time China had indicated a willingness to consider a regional cooperative approach to the resolution of the dispute.[61] Notwithstanding, although China discussed the possibility of laying aside the territorial and sovereignty issue to facilitate mutually beneficial co-operation to develop and exploit resources, the progress represented at the conference in respect of resolving overlapping territorial and maritime claims in the South China Sea was minimal. Importantly, China remained adamant in its assertion that its claim to sovereignty, remains, 'non-negotiable',[62] a claim which remains extant to this day. Shortly after the Bandung Conference China announced its new "Territorial Sea and the Contiguous Zone Waters Law", claiming sovereignty over the water column, seabed and airspace stretching 12 nautical miles from its coasts. The law was made applicable to the Spratlys and Paracels.[63] It is under these auspices, therefore, that China has made its claims to the region.

**Vietnam**

Vietnam is the major contender to China's claim over the Spratlys. Like China, Vietnam has propounded plausible claims of sovereignty to the Spratlys based on historic title. Hanoi currently occupies 25 islands with its main base on Spratly Island ('Truong Sa') and argues that the entire island cluster falls within its continental shelf. The inability of the two parties to reach a working compromise is a major stumbling block to a settlement in the dispute.[64] Recently Vietnam has taken a number of measures to assert its title to the Islands. It has already signed an oil exploration agreement with Malaysia and in December 1992 Hanoi awarded a Production Sharing Contract to a consortium of oil companies, including BHP Petroleum (an Australian company), for the development of the Dai Hung (Big Bear) field. This field is located in the Con-Son Basin, adjacent to the Spratlys.

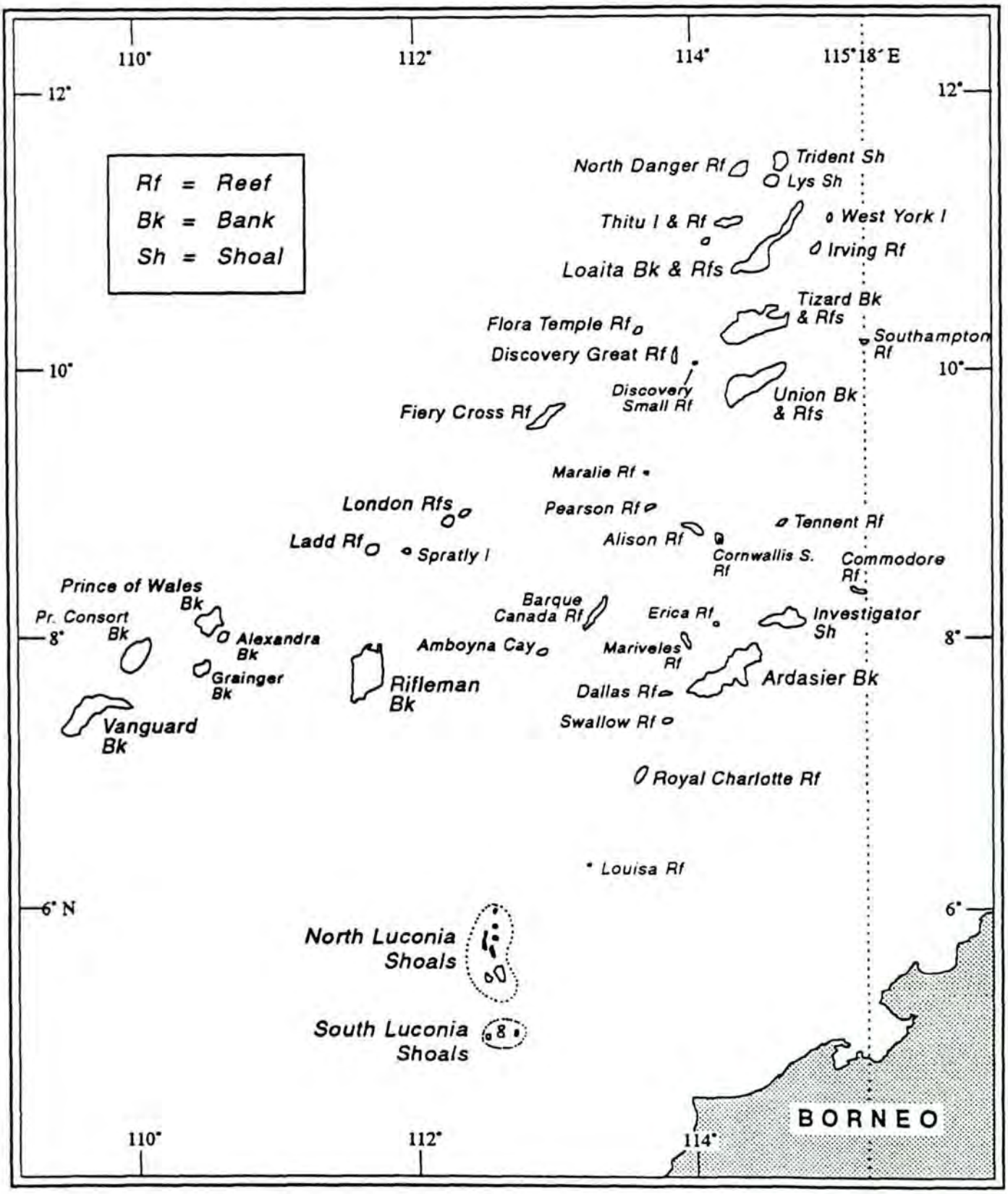
**Taiwan**

Taiwan is the third and final power to claim the Spratlys in their entirety, but to date occupies only one island, Itu Abu. Itu Abu is the largest of the Spratly Islands, covering 42 hectares. In 1992 Taipei extended its EEZ, an action that has brought a majority of the Spratlys within the EEZ of Itu Abu, and hence under claimed Taiwanese control.[65]

**Malaysia**

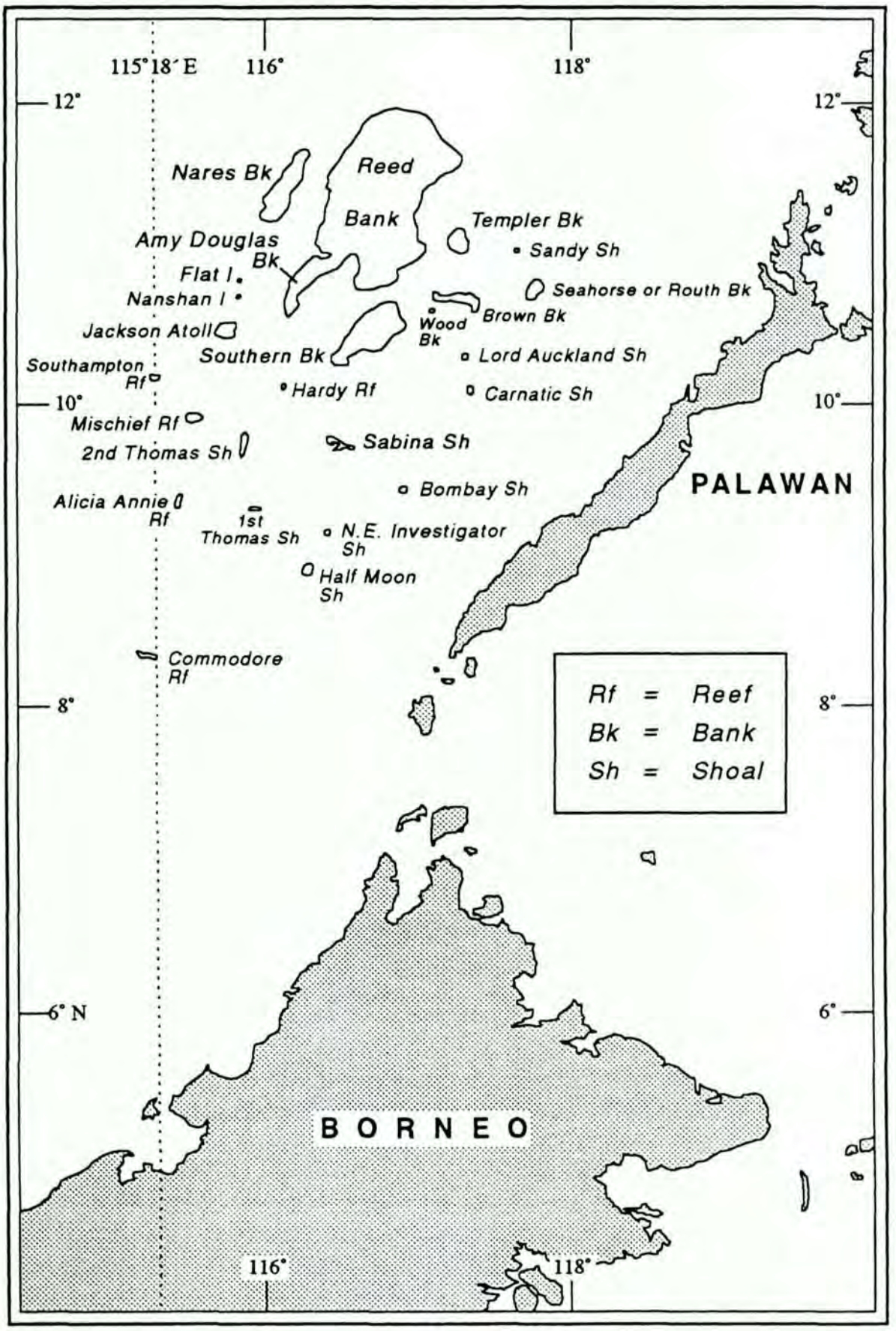
Following the 1979 publication of a map detailing extensions to its claimed continental shelf and EEZ limits, Malaysia became involved in the Spratly dispute, occupying Swallow Reef (Layang) in 1983.[66] A further two islands were occupied in 1986. Malaysia claims the three islands it currently occupies, as well as Amboyna Cay which is currently held by Vietnam.

# The Spratly Islands west of meridian 115° 18' East




Provided courtesy of International Boundaries Research Unit 'Maritime Briefing' Vol 1 No 6.

# The Spratly Islands east of meridian 115° 18' East



### Philippines

The Philippines garrisoned its first island, Thi Tu Island (Pagasa), in 1968. It subsequently occupied a number of other islands, which are now officially referred to as the Kalayan (Freedom Islands). The Philippines essentially claims only the western section of the Spratlys (that nearest to Palawan Island) but that includes most of the larger islands in the archipelago. After the 1988 Sino-Vietnamese clash, Manila reinforced all its islands and warned both the Chinese and Vietnamese not to disturb its territories in the Kalayan. The Chinese moves on the Mischief Reef are addressed later on in this article.

### Brunei

In 1954 Brunei extended its maritime interests out to include Louisa Reef. In 1984, following the examples of other nations, the Sultanate declared that it was expanding its EEZ to the 200 nautical mile limit as permitted by the 1982 United Nations Convention on the Law of the Sea (from now on referred to as UNCLOS III). This, Shephard notes, had the effect of quadrupling Brunei's maritime jurisdiction, taking the state's interests out to the Spratlys and, significantly, into other countries' claims.[67] Louisa Reef, one of the 'Southern Shoals' of the Spratlys Islands, however, is permanently underwater and for this reason Brunei does not maintain any official military presence in the archipelago. The general opinion is that Brunei is 'geographically qualified' to make such a claim.[68]

### Comment

Of all the claimants, China's motivation to own and exercise control over the Spratlys is strongest. Buzan and Segal have observed that the strategic waterways are so economically important as to justify Chinese intervention and a power projection capability. They also add that '...Chinese strategists are making similar cases for the resources throughout the entire South China Sea'.[69] The growing concern by many analysts is that rapid economic growth could produce a more aggressive China which could in turn threaten the stability of the Asia-Pacific region.[70] Jun Zhan, in his article *China goes to the Blue Waters*, makes some rather alarming statements in support of China's claim to the islands and the resources of the South China Sea. He adds that 'the South China Sea is the major territory that will support China's existence in the next century, ... that the resource abundant South China Sea is likely to become China's new frontier at the turn of the century ... and that it is high time for China to readjust its maritime strategy and make more efforts to recover the oil and gas reserves of the region'.[71] Underlying these hegemonic comments are the concerns about the gigantic burden which China's overpopulation weighs on its land resources. Because of these economic reasons Jun considers that China's advance into the South China Sea seems inevitable, that confrontation with Vietnam (now a member of ASEAN) seems probable and the prospects for a peaceful solution to the Spratlys conflict seem remote.[72]

Fortunately, there are slightly less alarming analyses to draw upon regards the implication of Chinese economic order in the South China Sea. However, what Jun does provide is an alternative insight into Chinese concerns and more importantly draws upon the expansion of the Chinese military which might be capable of carrying out these threats. Generally, Western analysts surmise that economic considerations are likely to militate against the possibility of China escalating its military activities in the area;[73] that the PRC has too much to loose economically if it became involved in any large scale maritime military action in support of its sovereignty claims in the South China Sea.[74] In order to continue its modernisation programme, therefore, it is essential that China continue to develop its trade links with ASEAN members, South Korea and Japan.

However, there are others who argue that the strategic waterways are so economically important that they would naturally justify intervention and power projection capability. Economic interdependence, therefore, is not necessarily a protection against tension and conflict.[75] Dibb also argues that there is no evidence to support the theory that economic interdependence will guarantee peace or pull the region together.[76] Rather, regional order in Asia relies more on a continuing balance of power among the great powers and on a significant role for the one commonly accepted great external power; the US. This, he argues, would be a stronger guarantee of stability in Asia than the free play of economic and market forces and the reduction of trade barriers.

## Present Day Maritime Order in the South China Sea

### China

Over the last 10 years the Chinese navy (PLA-N) has been brought to the centre stage of the PLA's military policy. This is cause for concern. It is this new maritime posture and development which is having the greatest impact on the expectations and behaviour of other states in the region. Although China's leaders insist their maritime build-up is defensive and commensurate with China's overall military growth, others in the region cannot be sure of China's intentions,[77] particularly in the period of leadership transition. The bottom line is that the impact of the development of Chinese military capabilities on maritime order within the region will need to be closely monitored. Specific concerns are (1) China's maritime air and

naval modernisation programmes including the purchase and development of systems that support the PLA's new peripheral defence and forward projection doctrine,[78] (2) a rapidly rising defence budget[79], and, (3) the fact that China has yet to provide detailed and accurate accounts of defence expenditure and procurement. Importantly, it has been suggested that this lack of transparency in arms procurement and defence planning could lead to regional arms races, misunderstanding and conflict.[80] China's neighbours would certainly welcome greater transparency in its defence programmes, strategy and doctrine.

**ASEAN**

Acharya notes that the trend towards increasing ASEAN defence expenditure is likely to continue in the foreseeable future. The evidence today is that acquisitions are being driven by a number of motives. These include intraregional suspicions, uncertainties about the military position of the US and the region's economic prosperity and availability of large quantities of weapons at bargain basement prices.[81] Despite a world wide trend of declining defence expenditures, spending by ASEAN nations over the past eight years has in fact increased. Defence expenditure measured in current dollars and exchange rates appears to have increased.[82] Of particular note, however, is the new emphasis on defence spending which focuses primarily on maritime forces, including maritime air power. Mak notes that the reasons for this shift are twofold. First, the disappearance of the bipolar balance of power following the end of the Cold War; second, the appearance of new maritime disputes in the South China Sea. Importantly, the ASEAN maritime build-up[83] has been described as an attempt to create a regional capability to counter the expanding Chinese navy and to enforce, patrol and protect the members own sovereign claims to territory including maritime jurisdiction (EEZs) in the South China Sea.[84] These appear to be the main factors underlying military modernisation programmes in South-east Asia.

In summary, the growth of Chinese and ASEAN naval power continues. Although it would take about 20 years before China's defence programmes change the true balance of power in the region, the impact of Beijing's defence modernisation programmes could now be felt in some territorial or sub-regional conflict.[85] Although there can be no doubting superior Chinese military might, both Chinese and ASEAN's weapon inventories appear particularly well suited for regional conflict. Properly armed, the rush to acquire and defend claims to territory in the South China Sea, such as the Spratlys further precipitates regional tensions and the possibility of conflict.

## Sovereignty, Delimitation and the United Nations Convention on the Law of the Sea (UNCLOS)

It is China's undisputed claim to virtually the entire region of the South China Sea that is currently of greatest concern to ASEAN members and which remains a major source of maritime tension in the area. The dangers that this tension is creating cannot be ignored. Compounding the problem of Chinese unilateralism towards these claims, however, are the added problem of sovereignty, the delimitation of jurisdiction over maritime space and the subsequent settlement of overlapping territorial claims within the confines of a semi-enclosed sea.[86]

At no time in the past has the concentration of overlapping territorial and jurisdictional interests in the South China Sea region been as intense.[87] It is these complexities and uncertainties associated with the settlement of such claims which Dibb points out, '...[are] fraught with danger'.[88] While there has been some discussion among the littoral states competing for control over the Spratly Islands archipelago about cooperative legal approaches to the resolution of their overlapping claims in the South China Sea, Valero notes that unilateral State assertions of sovereignty over the islands and jurisdiction over the waters and its resources remain the norm. This is an accurate observation. Although it appears that some concessions with China were achieved at the last ASEAN Ministerial Meeting in Brunei (these are discussed later on in the paper), in essence China refuses absolutely to discuss its territorial claims although it has stated previously that it is apparently willing to consider joint exploration. However, to date there have been no joint developments and China and Vietnam continue dangerously to press ahead independently with oil exploration in contested waters[89] (see Diagrams Three and Four). These unilateral developments must be of concern to ASEAN claimants.

***Comment***

The argument today is that traditional international law concepts of 'basis of title' for the acquisition of Spratly territory which include (1) claims based on historic title, (2) claims arising from international agreements, and (3) claims based on occupation do not provide a viable framework for a regional effort to manage effectively the allocation and utilisation of the South China Sea's resources. Specifically, it is these concepts which are proving to be convenient justifications for unilateral assertiveness that only aggravate existing political and military tensions in the area.[90] It certainly doesn't bode well for the achievement of political and economic stability in the region in the post-Cold War period.[91] As previously mentioned, the Palmas Ruling on intertemporal law where occupation is an effective source of title to ter-

ritory is but one example. It is the ambiguities and gaps in UNCLOS III, however, which can be seen to further highlight these problems. These will now be discussed.

**Territorial Sovereignty**

With the institutionalisation of the principles developed through UNCLOS III, there has developed in the region an acceptance that there are two basic aspects to the problem in the South China Sea (1) the determination of sovereignty over the contested island groups and (2) the delimitation of jurisdiction over maritime space. Notwithstanding some 'advances' made at the Bandung Conference, Valero notes that the establishment of title to the Spratlys continues to remain a precondition for their use as base points from which littoral states may determine the extent of their maritime competencies.[92] In other words, the question of who has valid title to the disputed islands needs to be resolved before the issue of maritime delimitation can be addressed.[93] Regrettably, solutions to the disputes over the sovereignty of land territory, continental or insular, are not covered by UNCLOS III. In fact, UNCLOS III ignores the complexities of resolving overlapping claims within the South China Sea, complexities which have become the source of the problems for the claimant states.

**Comment**

Without consensus or compromise, there seems to be very few solutions to the problems which are compounded by international law. UNCLOS III only provides guidance once territorial ownership has been settled. The Convention on the Law of the Sea is not equipped to provide solutions to disputes concerning uninhabited islands or rocks within unilaterally declared maritime zones.[94] Furthermore, the new regime of the EEZ has created additional national sea boundaries, whose regulations are not always congruent with those governing the continental shelf.[95] Shephard also notes this anomaly stating that had the convention more specifically addressed the problem of overlapping EEZ claims and conclusively established the definition of a continental shelf, the maritime tensions of the South China Sea might have been avoided.[96]

As previously discussed, economic interest in the region is intense. Haller-Trost observes, '...the main aim of the contestants is to gain influence within the region ... or to prevent others from achieving singular predominance'.[97] The general feel from most observers, therefore, is that if contestants continue to persist in debating their claims according to the state of international law and historic title then there will be no solution. Although UNCLOS III was supposed to reduce conflicts in areas where delimitations have to be drawn, it has proved to have the opposite affect in areas such as the South China Sea. UNCLOS III has, as Shephard concludes, '...exacerbated preexisting maritime tensions',[98] and unless attitudes change the Spratly Islands will be one of the last of the pending maritime controversies to be solved.

**The Solutions**

Although the situation appears desperate there are a number of credible solutions. The general consensus is that a regional solution to the problem of sovereignty and delimitation is preferred. It is an Asian problem. To this end it has been suggested that the claimant states form a regional mechanism to solve their disputes. Pending resolution of sovereignty it has been suggested that states could collaborate on the joint development of resources without jeopardising their claims. As pointed out by Shephard, Indonesia has suggested that the disputants enter into resource-sharing agreements whereby possible oil reserves are exploited prior to the resolution of ownership.[99] The successes of the Malaysian-Thailand JDA and the Australian-Indonesian Timor Gap Treaty is evidence that such schemes could work. However, with three or more claimants, negotiations and consensus may prove more difficult.

Another analyst has suggested that solutions could either take the form of a "*some for each*" approach in which the entire South China Sea is divided in equidistance lines from all claimed base lines, or a "*some for all*" approach. The latter would call for parties to set aside their claims and set up a multilateral Spratly Management Authority to administer the contested area. This would enable the six to work together to pursue exploration, develop resources, manage fisheries, etc.[100]

It is argued, however, that the likelihood of any agreement regarding the joint development of the islands involving all the claimants has limited plausibility. The obstacles to joint development include Beijing's sure objection to any negotiations involving Taiwan and the principles for the fair allocation of rights and profit. Importantly, any joint development zone proposals with China will be made dependent on agreement to China's "indisputable sovereignty" over the islands. This is highly unlikely to occur in the near future. The limited prospects, therefore, for joint development continue to fuel tension and add to the continued threat of armed conflict over the disputed islands.[101]

## Recent Developments: Towards Consensus?

The Spratlys issue topped the agenda at the 1992 ASEAN Ministerial Meeting (AMM) in Manila, and was the inspiration behind the ASEAN's first formal declaration involving regional security - the ASEAN

declaration on the South China Sea - which emphasised the need to solve all sovereignty and jurisdictional issues "by peaceful means without resort to force" (ASEAN 1992). Whilst some analysts interpreted this declaration as a sign of increased ASEAN security cooperation, Mak notes that it was actually more a reaction towards the February 1992 PRC declaration of *The Law of the Peoples Republic of China on the Territorial Sea and the Contiguous Zone*.[102] In February of 1995 security concerns about the Spratlys increased abruptly when the Philippines discovered Chinese-installed structures at Mischief Reef, which Manila considers part of its Kalayaan group. China's move subsequently prompted ASEAN as a group to publicly criticise Beijing's aggressive and 'hegemonic' policies towards its sovereign claims in the South China Sea.[103]

In an apparent attempt to placate its South-east Asian neighbours at a time when it is 'feuding bitterly' with Taiwan and the US, Chinese officials arrived in Brunei for the 1995 ASEAN Ministerial Meetings and Regional Forum discussions with somewhat more flexible proposals for resolving conflicting claims and for reducing maritime tensions in the region.[104] The annual ASEAN Ministerial Meeting in Brunei, parleys with the groupings' dialogue partners as well as the security oriented ASEAN Regional forum (ARF) have shed some new light on Chinese claims to the disputed islands.[105] Although these developments are only very recent, the result of these meetings and dialogues provides an excellent insight into Chinese and ASEAN efforts at reducing maritime tensions within the region. These efforts and an analysis of the outcomes are discussed below.

## Meeting Outcomes

During the 1995 Brunei meetings and ASEAN Regional Forum discussions, Chinese Foreign Minister Qian again reiterated that China had "undisputable sovereignty" over the Spratly Islands. This did not come as a surprise. For the first time, however, Qian also commented that Beijing would be willing to recognise international law regarding the settlement of claims, including the 1982 UN Convention on the Law of the Sea, as a basis for negotiating differences.[106] Qian also said that China would discuss differences in the South China Sea with all seven members of ASEAN. Although Philippine Foreign Secretary Domingo Saizon said China's new proposals '...aren't really a concession', he did comment 'that China is now in the position of opening doors to possible political compromise'.[107]

Furthermore, as a result of the 'Mischief Reef incident', China and the Philippines signed a pact whereby both parties promised to abide by a Spratly Code of Conduct, a code that aims to reduce military tension in the region and which bans the use of force in resolving future conflict. Initial observation indicates that this was a promising start, that claimants are aware of the potential dangers and damage that further conflict may cause. It also indicates that China appears willing to resolve its differences peacefully. The Sino-Philippine pact negotiated during the ARF is certainly a positive development and useful indicator for other Spratly claimants who will need to deal with China over the question of sovereignty. ASEAN's newest member, Vietnam must view the pact with a quiet optimism.

### Comment

Whether China is going to take a more benign line with its neighbours over the Spratlys is yet to be seen. Although China hasn't changed its fundamental position on its sovereignty claims, the tone of China referring to international law including UNCLOS 111 provides greater possibility for trying to find a diplomatic solution to the disputed claims. However, Indonesia's Foreign Minister Mr Ali Alatas rightly added a note of caution, pointing out that a lot of hard work remained before these conflicts could be resolved.[108] Nonetheless, China's apparent willingness to use the UN Convention on the Law of the Sea as the baseline for resolving disputes has been welcomed by both ASEAN and its Regional Forum partners. 'On that basis', Alatas commented, 'there's no more guessing how you draw lines for an Economic Exclusion Zone or a Continental Shelf ... there can be no more disputes over what are considered the lines of an Archipelagic state'. Understandably, this new transparency was very much welcomed by Indonesia who has often queried China on its "dotted line" or historical tongue shaped claim, a claim which encompasses Indonesia's valuable Natuna oil and gas fields.[109] The Indonesian predicament is certainly a strong case in point and highlights ASEAN's uncertainties of China's claims.

Notwithstanding the recent "breakthroughs" and "positive developments" at the 1995 ASEAN Ministerial Meeting and Regional Forum, and although China is now talking about the prospect of referring to international law to resolve differences, ASEAN states can still not be sure what China is claiming. There remains a hefty degree of uncertainty. China has yet to publish details of its baselines from which territorial waters are measured[110] and until it does (or if it does), then any discussions which address legal claims, claims which touch on the sensitive question of sovereignty must also be approached with a degree of caution. Until China will further acquiesce to international norms and move towards consensus and compromise in a multilateral forum, then its unilateral claims which are based on vague historical grounds and which give rise to suspicions of "Chinese hegemonic dominance", will continue to form the basis of maritime tension concerning ownership

over the Spratly Islands. For this reason it would probably be wise not to get too excited at the gains made. As recently reported in *The Nation*, getting China to agree to discuss its legal claims in a bilateral forum with the Philippines was considered '...a minor concession only', and that coming after muted discussions on the issue at the ASEAN Regional Forum, the talks with China over sovereignty had in fact 'achieved minor gains'.[111]

## ASEAN and the Future

The post-Cold War challenges that face ASEAN in their efforts at reducing maritime tensions in the South China Sea are considerable. As regional security is essential to the economic well-being of the ASEAN states, they must find a common solution to these maritime problems if that prosperity is to continue.[112] Central to this solution is dialogue with China. Realpolitik dictates that it is not only prudent but economically profitable, to constructively engage China over the matter of the Spratlys. To date, the inability of ASEAN nations to adopt a common position over the South China Sea must only encourage Beijing to continue its policy of "creeping assertiveness" in the area.

China remains the real threat to stability and needs to be subjected to more vocal and effective efforts to make Beijing aware of the risks it is running. Although the ARF is a useful vehicle on which to develop a phased approach to cooperative security it can only muster limited resources and influence in managing broader regional conflicts such as the Spratlys.[113] Importantly, the ARF has no plan of action for regional security let alone the development of institutions or processes for conflict resolution such as the Spratly Islands dispute.[114] For these reasons multilateral cooperative security arrangements for the region as a whole will not be attainable in the foreseeable future.[115]

That China has managed to temper regional and international fears of Chinese hegemony with the occasional bilateral agreement or conciliatory overtures is more than good luck. It is the lack of effective multilateralism as well as the sheer strategic diversity of the area and military might of China which permit it to pursue its unilateral claims to the region with virtual impunity. It is no coincidence, therefore, that ASEAN countries have a continued interest in a US presence, nor is it a coincidence that China wishes the US to stay out of the negotiations concerning the South China Sea, preferring to discuss the conflict "in the Oriental way".[116] One thing is certain: a lot of hard work remains.

## Conclusions

As China looks south it does not encounter the same degree of military opposition that it faced during the Cold War in seeking to extend its territorial and maritime jurisdiction. China has never compromised over sovereignty and Beijing's all encompassing claim to the South China Sea, now ably supported by the enhanced capabilities of the PLA-N, continues to act as a major source of tension throughout the region. China, spurred on by its own economic strength, driven by the strategic importance of the Spratly Islands and by the possibility of untold hydrocarbon riches, dominate the claim to the region, a region now uncharacteristically devoid of any credible multilateral forum or deterrent capable or willing to challenge it. The maritime tensions created as a result of these and other unilateral claims to the area are further complicated by the ambiguities in international law and by the military modernisation programmes associated with various other claimant nations.

Although Asia is enjoying a hard-won stretch of peace and prosperity, the ASEAN Regional Forum, the leading vehicle through which the entire region's nations can conduct dialogue, foster mutual understanding and build trust, has major challenges ahead. The Spratly Islands conflict and associated maritime tensions continue to lead these challenges. Importantly, ASEAN must now actively pursue, through consultation, consensus or compromise the challenges of multilateralism to deal with these problems. To fail on this challenge could result in conflict and more importantly the loss of the economic advantages that it now enjoys and that it has worked so hard to attain.

## Notes:

1 Shephard, Allan. Maritime Tensions in the South China Sea and the Neighbourhood: Some Solutions, Studies in Conflict and Terrorism, p. 9.

2 Formed in 1967 ASEAN members include Indonesia, Malaysia, Philippines, Vietnam, Brunei, Singapore and Thailand.

3 In fact ASEAN's Secretary-General Datuk Ajit Singh said the Spratlys was "...one issue that was talked about by almost everybody". See Comforting Noises, The Far Eastern Economic Review, August 10, 1995.

4 Acharya, Amitav, A New Regional Order in South-East Asia: ASEAN in the Post-Cold War Era, ADELPHI Paper Number 279, International Institute for Strategic Studies, 1993, p. 12.

5 Ibid, p. 13.

6 Dibb, Paul, Towards a New Balance of Power in Asia, ADELPHI Paper Number 295, International Institute for Strategic Studies, 1995, p. 16.

7 Buzan and Segal, Rethinking East Asian Security, SUR-

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[8] VIVAL, 1994, p. 7.
[9] The Ambassador's speech provides a detailed description of the security aspects of US policy. For an official published view see United States Security Strategy for the East Asia Pacific Region - February 1995.
[10] Allaying some ASEAN concerns, the strategy also notes that post-Cold War force reductions have now levelled off.
[11] For further details on US foreign policy see US Security Strategy 1995.
[12] Shambaugh, David, Growing Strong: China's Challenge to Asian Security, SURVIVAL, The IISS quarterly, Vol 36, No 2, Summer 1994, p. 43.
[13] Dibb, Op Cit, p. 29.
[14] Pollack, Dr Jonathon, The United States in East Asia: Holding the Ring, ADELPHI Paper 275, International Institute for Strategic Studies, p. 81.
[15] Shambaugh, Op Cit, p. 49.
[16] Segal, Gerald, Opening and Dividing China, The World Today, The Royal Institute of International Affairs, May 1992, p. 80.
[17] Also see Professor Yasheng Huang, China's Economic Development: The Implications for its Political and Security Roles, ADELPHI Paper No 275, p. 20. Huang remarks that "...the most likely issues to provoke a strong military response from China are the sovereignty of the Spratly Islands and Taiwanese independence".
[18] Liefer, Michael, Chinese Economic Reform and Security Policy: The South China Sea Connection, SURVIVAL, The IISS Quarterly, Vol 37, No 2, Summer 1995, p. 57.
[19] Dibb, Op Cit, p. 67.
[20] Gerald Segal in his article, Opening and Dividing China, The World Today, May 1992, also makes some interesting observations concerning the relationship between human rights issues and China's trading position. He argues that the collapse of the Cold War has meant that the US is now freer to focus on Chinese behaviour, in particular human rights abuses. He also suggests that China is unlikely to hold its advantageous trade position without some fundamental improvements in this area. Segal notes that a $30 billion US dollar trade surplus is a sober incentive to an emerging China dependent upon economic success. This surplus (which is helping to underpin political stability) is only made possible by a Most Favoured Nation (MFN) trading status despite these violations of human rights. His forecast along with many other South-east Asian analysts that China is likely to resist pressure on this issue continues to ring true. At the 1995 ASEAN annual Ministerial Meeting and Regional Forum discussions held in Brunei, Warren Christopher the American Secretary of State was snubbed by Qian Qichen, the Chinese Foreign Minister when he asked for the release of Harry Wu Hongda, the American human rights activist imprisoned in China (Wu was sentenced to 15 years jail and has since been deported back to the US). It is this resistance to western pressure on human rights (which China sees as a sovereign issue) that continues to be a major thorn in US-Sino and indeed US-ASEAN relationships. Acharya, Regional Order, p. 20, also notes that ASEAN states view western pressure on human rights issues with a great deal of suspicion and concern. He states that "...US efforts to link economic relations with human rights is seen as an unwelcome interference in internal affairs". See also The Economist, August 5th, 1995, p. 59.
[21] Shambaugh, Op Cit, p. 51.
[22] Acharya, Op Cit, p. 76.
[23] Ibid, pp. 77-78.
[24] Quoting Acharya in Dibb: Op Cit, p. 55.
[25] *Ibid*, p. 65.
[26] Quoting Acharya in Dibb: Op Cit, p. 76.
[27] The Bangkok Post, August 11, 1995.
[28] Weixing Hu, China's Security Agenda after the Cold War, The Pacific Review, Vol 8, No 1, 1995, p. 117.
[29] Ibid, p. 131.
[30] Source: Ball in Dibb, Balance, 1995.
[31] For an excellent summary of intra-ASEAN disputes also see Acharya, Op Cit, pp. 30-33.
[32] Dibb, Op Cit, p. 52.
[33] Quoting Brigadier Alwi in Shephard, Op Cit, p. 187.
[34] Hindley and Bridge, South China Sea: The Spratly and Paracel Island Dispute, The World Today, Vol 50, No 6, June 1994, p. 109.
[35] Ibid, p. 111.
[36] China seized the Western Paracels in 1974.
[37] Quoting Brigadier Alwa in Shephard, Op Cit, p. 187.
[38] Ibid, p. 188.
[39] In accordance with the Law of the Sea Convention, in an EEZ, the coastal state enjoys sovereign rights for the purpose of exploring, exploiting, conserving and managing the natural seabed, subsoil and superjacent waters and jurisdiction with regard to (1) artificial islands, installations and structures: (2) maritime scientific research; and (3) the protection and preservation of the marine environment.
Brigadier Dato Alwi's forcast as detailed in his article The Claims in the South China Sea, Asia Defence Journal, June 1992, (quoted in Shephard, Op Cit, p. 188) has proved to be correct. As recently reported in The Bangkok Post Saturday August 19, 1995, the first exploratory well drilled in the Malaysia-Thailand Joint Development Area (JDA) in the Gulf of Thailand has been declared a "substantial" gas discovery. Well Cakerawala-1A, located 180 kilometres southeast of Pattani is the first in a series of about five wells to be drilled in a joint venture between the US-based Tritone Oil Energy company and the Malaysian State oil firm Petronas. The report notes that the discovery of the well lives up to earlier expectations that the JDA, lying within a defined area of the continental shelf of the two countries in the Gulf of Thailand is indeed gas prone. Importantly, this recent discovery confirms two points. First, it highlights the economic importance of the area; second, the agreement has proven to be an excellent example of cooperation of a practical nature showing that states can enter into provisional agreements without prejudice to the final delimitation question. In 1990 Haller-Trost in his paper The Spratly Islands: A Study on the Limitations of International Law, p. 83, concluded that a solution like this would not only provide a step in the direction to a peaceful answer to the Spratly problem, but could also serve as a paradigm that may become part of international customary law for cases which are otherwise restricted in their solutions (sovereignty, delimitation and the problems of overlapping maritime claims in a semi-enclosed sea are addressed later on in this paper.)
[40] Shephard., Op Cit, p. 188.
[41] The Economist, August 19-25, 1995, p. 4.
[42] Also see Asiaweek, August 18 and 25, 1995, and The Far Eastern Economic Review, August 10, 1995. These reports provide excellent coverage and analysis on the

[43] recent problems between the China, Taiwan and the US.
[44] Shephard., Op Cit, p. 188.
[45] Acharya., Op Cit, p. 37-40.
[46] Chinese names in brackets.
[47] Reproduced from US Security Strategy, p. 19.
[48] Cordner, Capt Lee G, The Spratly Islands Dispute and the Law of the Sea, Journal of the Australian Navy Institute, May/July 1994, p. 35.
[49] These figures were accurate as of August 1995.
[50] Source: International Boundaries Research Unit. Maritime Briefs, Vol 1. No 6. pp 22-23.
[51] Miller, David., The Maritime Importance of the South China Sea, Naval Forces, No II/1993, Vol XIV, p. 32.
[52] Ambassador Lord., Security Policy, Op Cit, pp. 7-8.
[53] Haller-Trost R, The Spratly Islands: A Study on the Limitations of International Law, Centre of South-East Asian Studies, Occasional Paper No. 14, 1988. p. 10.
[54] Valero, Gerado M.C., Spratly Archipelago Dispute: Is the Question of Sovereignty still Relevant?, Marine Policy 1994, Volume 18 No 4, 1994, p. 322.
[55] Due to the restrictive length of this paper the historical claims cannot be dealt with in detail. For what are very comprehensive analyses of Chinese (and Vietnamese) claims to the islands see Valero, Sovereignty, pp. 319-326, Cordner, Dispute, pp. 35-42, and Haller-Trost's Study on the Limitations of International Law , pp. 6-47.
Haller-Trost, Op Cit p. 38. The Palmas case: The Netherlands v US, 1928, Permanent Court of Arbitration. By disconnecting occupation, as a means of acquiring title, from historic claims, this ruling on intertemporal law has in the words of Valero become, '...a formula for an escalation of competitive tension among the interested parties'. See Valero., Op Cit, p. 344. Although this ruling has helped China validate its claims it also acts as a double-edged sword: occupation becomes nine tenths of the law and gives rise to this concept of "creeping annexation or assertiveness" of Spratly territory by other claimant nations.
[56] Fiery Cross is 14 nautical miles long and has been developed as a base for the Peoples Liberation Army-Navy (PLA-N) South China Sea Fleet. It also includes an airstrip.
[57] For a good summary of these reports see Valero, Op Cit, pp. 318-319.
[58] Shephard, Op Cit, p. 189.
[59] Cordner, Op Cit, p. 39.
[60] British Broadcasting Reports, 3 March 1992.
[61] As with Vietnamese claims, the ambiguity of China's historic records is compounded by doubts surrounding the authenticity of the records themselves. Valero in his article, Sovereignty notes that there has been ample opportunity for both claimants to continually compile evidence that would suggest the existence "of a long standing nexus" with the Spratlys, regardless of its verifiability. Concerns regarding the authenticity and accuracy of their historic records, both from China and Vietnam, he argues, must address the more fundamental issue of whether or not proof of historic titles still possess any weight as a mode for acquiring territory. China's first time attempt to temper tensions over the disputed islands by apparently offering to negotiate its claims on the basis of accepted international norms in lieu of historical claims is probably the first conciliatory step in this direction. These actions are discussed later in this paper.
[62] Statement of Wang Yingfan, Head of the Chinese delegation to the Bandung Conference, reported in Kyodo News Service, 18 July 1991; British Broadcasting Reports, 30 July 1991.
[63] See Reuters Library Report, 26 February 1992. The declaration defined what Beijing regards as its territorial waters and reasserted China's claim to "undisputed sovereignty" to the Spratly and the Chinese occupied Paracel Islands. Importantly, the declaration condones the use of military force to prevent violations of China's territorial waters and contiguous zones.
[64] Shephard, Op Cit, p. 193.
[65] Ibid, p. 194.
[66] Malaysia has recently opened Swallow Reef as a tourist resort.
[67] Ibid, p. 195.
[68] Valero, Op Cit, p. 316.
[69] Buzan and Segal, Rethinking, Op Cit, p. 13.
[70] Harding, Harry, On the Four Great Relationships: The Prospects for China, SURVIVAL, The IISS Quarterly, Vol 36, No 2, Summer 1994, p. 41.
[71] See Jun Zhan, China goes to the Blue Waters: The Navy Seapower Mentality and the South China Sea, The Journal of Strategic Studies, Vol 17, No 3. Jun states that Chinese energy experts estimate that the South China Sea may possess more than 65 billion tons of oil and gas reserves. Cordner in his article, The Spratly Islands Dispute and the Law of the Sea observes that tangible evidence of economically viable seabed exploration south and east of the Spratlys is already available although no evidence exists to suggest that there are hydrocarbon deposits within the EEZ of the disputed Spratly Islands. Cordner's observations are representative of the generally accepted view concerning the prospect of hydrocarbon deposits in this area. Although cautiously optimistic, Western analyses remain slightly more speculative.
[72] Ibid, p. 202.
[73] For such an opinion see Shephard, Tensions, p. 192.
[74] Hindley and Bridge., Op Cit, p. 110.
[75] Buzan and Segal, Rethinking, Op Cit, pp. 11-12.
[76] Dibb, Op Cit, p. 23.
[77] See US Strategy, Op Cit, p. 15.
[78] Specific examples include the purchase of 36 Russian SU-27 fighter aircraft, the development of an AAR capability, and the persistent speculation that it intends to acquire an aircraft carrier. Recent Russian arms sales to China including the purchase three Kilo class submarines and the PLA-N's move towards a greater emphasis on amphibious capability are also areas of concern. For a good summary of present day PLA-N capability see Jane's Fighting Ships 1995.
[79] It is reported that China's defence spending has doubled over the past four years. For what are good accounts and analysis of Chinese military doctrine and expenditure see Shambaugh, Op Cit, pp. 53-54 and Buzan and Segal, Rethinking, Op Cit, pp. 7-11. Most of these sources appear to be based on IISS Military Balance 1993-94 (London: Brassy).
[80] Dibb, Op Cit, p. 49.
[81] Acharya, Op Cit, p. 64-69.
[82] Ibid, p. 65.
[83] There is much debate whether there is an arms race taking place between ASEAN states. The official view seems to be that arms build-ups are modernisation programmes. For an excellent description of ASEAN naval force modernisation programmes, military competition, collaboration and defence spending analysis see

84 Acharya, Op Cit, pp. 64-69.
Mak, J.N., The ASEAN Naval Build-up: Implications for Regional Order, The Pacific Review, Summer 1995, pp. 303-304.
85 Weixing Hu, Op Cit, pp. 132-133.
86 According to the definitions of Art. 122 of UNCLOS III, the South China Sea is a semi-enclosed sea.
87 Valero, Op Cit, p. 314.
88 Dibb, Op Cit, p. 42.
89 Dibb, Op Cit, p. 42. China has already signed an oil exploration contract granting Crestone-Energy Corporation, a US company, a block of operation in an area of the South China Sea which is also claimed by Vietnam. It is reported that China has given Crestone assurances that it would use its naval forces to protect the company's operations. See New York Times, 18 June 1992: as quoted in Valero, Op Cit, p. 319.
90 Valero, Op Cit, p. 314.
91 Ibid, p. 317.
92 Ibid, p. 319.
93 Quoting Samuals in Valero, Ibid, p. 317.
94 The vagueness of the UNCLOS III in dealing with the problems of using remote, uninhabited islands or rocks as basepoints for claiming vast maritime zones (eg the Chinese structures on the Mischief Reef) can only encourage the countries involved to defer solutions, pass them off as 'island' status, and thus argue for extended maritime zones.
95 Haller-Trost, Op Cit, p. 78.
96 Shephard, Op Cit, p. 185.
97 Haller-Trost, Op Cit, p. 78.
98 Shephard, Op Cit, p. 185.
99 Ibid, p. 200.
100 Quoting Mark Valencia in Rivalry Hinders Efforts at Joint Exploration in South China Sea, The Bangkok Post, August 19, 1995.
101 Acharya, Op Cit, p. 35.
102 Mak,J.N., Asian Maritime Insecurity: Contingency Planning in an Uncertain World, International Defence Review-Defence 1995, p. 62.
103 This criticism was apparently levied during a senior officials meeting in Hangzhou, China, in April of this year. No further details or reporting on the meeting can be found by the author.
104 The Far-Eastern Economic Review, August 10, 1995,
105 The establishment of the ASEAN Regional Forum on security was agreed upon at the Post-Ministerial Conference of ASEAN in July 1993. Today it consists of nineteen member countries including the seven ASEAN states, seven "dialogue partners" (the United States, Japan, Korea, Canada, Australia, New Zealand and a representative from the European Union, China, Russia, Cambodia, Laos, and Papua New Guinea.) The ARF is Asia's first broadly based consultative body concerned with security. Curtis in his article Meeting the Challenge of Japan in Asia, United States, Japan and Asia: Challenges for US Policy, 1994, p. 250, provides a good analysis of the roles of the ARF. These roles include promoting a variety of confidence building measures such as exchanging views on military doctrine and strategy, devising approaches to make real military expenditures more transparent, and importantly finding other ways to encourage the peaceful settlement of territorial disputes. Actively engaging China in these discussions remains of paramount importance.
106 China has yet to ratify UNCLOS III. Notwithstanding the ambiguities associated with the agreement, as international law is based on reciprocity, then ratifying the treaty would implicitly signal China's respect for other claimant nations. Whether this would be in China's interest is yet to be seen.
107 The Far Eastern Economic Review, Op Cit, 16.
108 Ibid, p. 16.
109 The Indonesian Government recently signed a US $35 billion dollar deal with Exon to develop the field in conjunction with its state-owned oil company Pertamina. As recently as May 1995, Alatas commented that the oil companies involved in the development of the Natuna fields were finally taking note of the Chinese claims. Understandably, Indonesia and the oil companies had hoped that China would have clarified its claim before further negotions were conducted.
110 Leifer, Op Cit, p. 46.
111 The Nation, August 11, 1995. The Nation is an independent Thai national newspaper.
112 Part of opening statement of His Excellency Datuk Bin Badawi Foreign Minister of Malaysia at the 25th ASEAN Ministerial Meeting held in Manila, July 1992, pp 5-8.
113 Acharya, Op Cit, p. 78.
114 Dibb, Op Cit, p. 45.
115 Dibb, Op Cit, pp. 65-67.
116 The Far-Eastern Economic Review, August 10, 1995, p. 16.

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# Under Two Flags

*From page 38*

hands of the Balcemedist torpedo-boats. With the end of the civil war, *Huascar* finally settled down to more peaceful pursuits. She remained on the strength of the Chilean navy until well into the twentieth century. At various times she served as a coastal and harbour defence ship, a training ship, a barracks ship, a depot ship for Chilean submarines and as the flagship of the officer commanding Talahuano Naval Base and the 2nd Naval Zone. *Jane's Fighting Ships 1905-06* lists her as a harbour defence ship in 1906 (the photo accompanying the entry showing her to

be in a fairly disreputable condition) while the 1945-46 edition of *Jane's* lists her as coastal defence ship (the photo accompanying the entry showing her in much better condition, apparently having been overhauled and refurbished).

## Today

Sometime in the late 1940s, *Huascar* was decommissioned and she remained idle for some years at anchor at Talahuano. In 1951, however, the Chilean Navy decided to recondition the old lady and commission her as a museum ship in memory of Arturo Prat. Thoroughly overhauled and reinstated as far as possible to her original state she now sits resplendent at the wharf side in Chile's main naval base. Although she has been refurbished and sports a sparkling paint scheme of black, white and buff, her battle scars have been left for all the world to see, the various shell holes filled in with brass to show them off to better effect.

## Ramming

Before concluding, it is worth briefly examining why the ancient concept of ramming was so much in vogue in the 19th century and indeed why it lasted as an aspect of ship design for as long as it did.

Ramming was the standard method of warfare used by navies equipped with galleys from about 3,000 B.C. to as late as 1809 (Russo-Swedish War). The tactic was brutally simple, consisting of pointing the metal "ram" in the bow of the galley at the side of an enemy ship and driving at the target at the greatest speed possible from the exertions of the rowers. On successfully ramming an enemy, the rammer would usually attempt to board. If ramming was unsuccessful or if the boarding party was beaten back and the rammer in danger of being overrun itself, the captain could always "reverse engines", removing his ship from danger and, if the physical act of ramming *had* been successful, usually leaving the rammed ship to sink as the water rushed into the gaping hole left by the ram.

Ramming relied for its success on the speed and manoeuvrability of the galley which, depending on the stamina and condition of the rowers, could achieve speeds of up to nine knots for short spurts and which all importantly could, if necessary, go in reverse. Ramming fell into disuse with the advent of sail as these ships lacked the speed and manoeuvrability of the galley, especially the critical ability to rapidly reverse direction to disengage.

With the advent of steam propulsion and iron hulls, thoughts once again turned to the idea of ramming as ship designers realised that once again the ability for ships to go rapidly in reverse existed. The first purpose built ram of modern history was probably the French ironclad *Couronne*, laid down at Lorient on 14 February, 1859. From then until about 1910, the ram featured as a standard part of naval design. Given the increased range and lethality of naval ordnance, especially in the latter half of the 19th century, the concept of the ram as a weapon of naval warfare appears almost lunatic and in fact represented a technological dead end. Unfortunately, naval faith in the ram as a weapon was reinforced by the successful ramming and sinking of the Italian battleship *Re d'Italia* by the Austrian ironclad *Erzhog Ferdinand Maximillian* at the Battle of Lissa in 1866 during the Austro-Prussian War. Although the success of this action was due to nothing more than a combination of Italian incompetence and Austrian luck, the fact that it was successful seemingly vindicated the validity of ramming as a naval tactic and ensured that the ram remained part of naval architecture for decades after it should have been consigned to the rubbish bin of history.

The inefficacy of ramming as a tactic in an age of increased range and lethality of naval ordnance combined with increased speed and manoeuvrability of warships is no better illustrated than by Peruvian and Chilean attempts to sink opponents by ramming. Even though *Esmerelda* was an antiquated wooden sloop, dead in the water, it took *Huascar* three attempts before she was able to carry out a successful ramming. And at the Battle of Punta Angamos, no less than five attempts at ramming were made, two by *Huascar* and three by *Cochrane*, none of which were successful. In fact, a glance at history would have revealed to the proponents of the ram its ultimate inadequacy as a weapon. As early as 260 BC, the Romans, locked in the deadly struggle with Carthage for control of the Mediterranean known as the First Punic War, invented the "corvus" as a counter to the previously unbeatable Carthaginian rams. The corvus (Latin for "raven" or "crow") was a hinged boarding bridge fitted with a heavy metal beak (hence the name) which was dropped onto the deck of enemy ships, the beak smashing through the deck timbers to join the two ships together securely, thereby achieving the double objective of stopping the enemy from completing the

ramming manoeuvre and allowing the highly trained and disciplined Roman marines to board and sweep the enemy's decks clear.

While it is true that a number of successful rammings were carried out during the two world wars, these were often desperation, last ditch attempts when all else had failed (for example the gallant but doomed ramming of the German heavy cruiser *Hipper* by HMS *Gloworm* in 1940) and were carried out by standard warships or merchant vessels, none of which were equipped with rams.

## Conclusion

Today, riding gently at anchor in the harbour at Concepcion, it is difficult to imagine *Huascar* as the terror of the Pacific coast. And yet, that is exactly what she was in her heyday. After such an exciting and historical career, it is fitting that she should have entered such honourable retirement. It is also fitting to remember that *Huascar* is the outward symbol of the proud naval tradition of not one country, but two, Peru and Chile. Joint ceremonies are held on her decks every year to commemorate the Battle of Iquique. Further to the north, at the Peruvian Naval Academy , at the monthly inspection of the cadets Miguel Grau's name is always called first and the senior cadet answers for him.

Apart from her purely historical connections, however, she is a fine example of an early low-freeboard ironclad monitor and is a credit to her builder. She is in fact one of the last of her breed, the only other two surviving ironclad rams being the Dutch *Buffel* and *Schorpien* (admirably described by Geoffery Bewley in his article "Ramming Speed" in the February/April 1995 issue of JANI) and it is perhaps unfortunate that she is located in such a relatively remote part of the world, otherwise her fascinating and heroic story might be better known.

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Wilson, Cmdr L.G., MBE, RAN, *Cradle of the Navy*

# Battle of the Komandorski Islands *from page 6*

fourth salvoes but did little damage. Deciding that it was impossible to get to the tranpsorts at this stage, Admiral McMorris ordered his ships to turn westwards and more closely engage the enemy. *Nachi* was forced to cease firing when an engineering fault led to a loss of electrical power to her guns and she was to remain silent for 30 minutes, although Maya continued firing on the Americans. At 0850, two shells from Salt Lake City struck the unfortunate Nachi, the first severing the mainmast, the second exploding on the starboard bridge wing, causing a number of casualties. Two minutes later, a third 8in shell exploded in Nachi's torpedo compartment causing more casualties. This was exceptionally good shooting when it is considered that *Salt Lake City* was zigzagging violently to avoid the heavy Japanese fire, chasing the Japanese salvoes while continuing to keep up her own fire.

Both the American and Japanese destroyers received orders from their respective admirals to close and attack with torpedoes. The Japanese destroyers, accompanied by the light cruiser Abukuma did attempt to close in but were uncharacteristically timid and scored no hits with their torpedoes. Salt Lake City received her first hit at 0910 when a shell from Maya destroyed *Salt Lake City's* float plane and killed two men. She received her second hit ten minutes later when she and *Nachi*, whose guns were now back in action, struck each other almost at the same time at a range of 24,500 yards. Minutes later, *Nachi* took a 5in hit from one of the American destroyers which caused enough damage to force *Nachi* to slow down.

McMorris now tried again for the transports, leading his ships around in a sweep towards the north but Hosogaya was too quick for him and brought his own column across the rear of the American column to get between them and the transports. Hosogaya's intention was to concentrate fire on *Salt Lake City* while risking his own ships as little as possible. At 1002, *Salt Lake City*'s steering gear broke down when the hydraulic unit on the steering engine was carried away under the shock of her own gunfire. Although the damage control crew was able to quickly rig a diesel boat engine to the steering gear, rudder changes were limited to 10 degrees for the rest of the battle. As her movements became erratic, Maya and Nachi closed to 20,000 yards and began pouring in salvoes. Observers on Richmond thought that their consort was doomed on a number of occasions as she disappeared in the spray of shell splashes. But somehow, she came through all of the straddles and near misses, the only hit she took being an armour piercing shell which passed right thorugh the hull without causing either casualties or major internal damage. The shell, however, exited below the waterline and *Salt Lake City* could now add taking on water to her woes.

By this stage, Admiral McMorris had realised that any chance of working around the enemy's van and getting at the transports was gone and was now concerned with saving his ships. His major concern was for *Salt Lake City* and he ordered his ships to make smoke to cover her. As *Salt Lake City* began to make both chemical and funnel smoke at 1018, *Bailey* and *Coghlan* closed in to add their own smoke to the screen. *Richmond* and the other two destroyers then moved into the cover of the screen and the group began to steam due west at 30 knots, *Richmond* in the lead with *Salt Lake City* 3,000 yards astern and the four destroyers on the flanks. At 1100, McMorris ordered a sharp turn to the south which was executed under cover of the smoke screen and which the Japanese were unaware of for some minutes.When they realised that the Americans had sheered off, the Japanese also turned south and steered a course to "cut the corner" and both *Nachi* and *Akumura* fired torpedoes, none of which scored.

Japanese salvoes continued to straddle *Salt Lake City*, however, and at 1103, she received her fourth and final hit, an 8in shell which destroyed the after gyro room and flooded the engine room, rapidly causing a 5 degree list to port. Speed fell off due to damage to the after oil manifold but the engineering crew quickly managed to switch suction to the forward fuel line and speed rapidly picked up to 20 knots. While *Salt Lake City* had been dealing with her damage control problems (but still keeping up fire on the enemy), the Japanese ships had closed the range as they sought to destroy the wounded heavy cruiser. They had turned away, however, when it seemed that the American destroyers were about to launch a torpedo attack, an attack which McMorris in fact ordered but then cancelled when *Salt Lake City*'s speed picked up again.

*Salt Lake City*'s troubles, however, were not over. At 1150 her boilers went out due to a mistake by the engineering crew who had switched the forward, rather than the after, fuel line to the water pumps in order to pump out water to correct the ship's list. This mistake caused the freezing Arctic water to flood the boiler fires and instantly put them out. Informed of *Salt Lake City*'s plight, McMorris ordered *Bailey, Coghlan* and *Monaghan* to launch a torpedo attack to cover Richmond and Dale while they closed in to take off Salt Lake City's crew. At that moment, however, Admiral Hosogaya, unaware neither that *Salt Lake City* was dead in the water, nor that the American had fired off all of her AP ammunition and was down to the last 15% of her HE, concerned about his own ammuntion and fuel state and believing that he was under air attack (the AP shells were loaded with a blue dye which made the splashes very distinctive to assist in spotting while HE only sent up smaller white splashes which looked like aerial bomb splashes) ordered his ships to break off and withdraw to the west.

As the Japanese withdrew, *Bailey*, *Coghlan* and *Monaghan* continued to press in their planned torpedo attack, but after Bailey took two hits in quick succession, one destroying her galley and the second cutting electrical power, McMorris ordered them to break off, not being prepared to risk his destroyers further in what was probably a futile attempt to torpedo the Japanese cruisers.

Incredibly, *Salt Lake City* remained dead in the water for only four minutes. Working in pitch darkness and in five feet of freezing water, damage control parties managed to purge the salt water filled fuel lines, cut in unaffected fuel tanks and relight the fires in the forward fireroom. The forward engines powered up at 1154, *Salt Lake City* was under way again at 1158 and had built speed to 20 knots by 1200 at which time she resumed firing on the enemy but ceased fire at 1204 due to the increasing range. *Richmond* continued firing until 1212 but then broke off the action and by 1215, when the Japanese ships were hull down on the horizon, the Battle of the Komandorski Islands was over.

The battle, although hard fought and quite brilliantly handled by both admirals, was totally indecisive. Fought for 3 1/2 hours in perfect sea conditions, the battle resulted in minimal casualties (7 KIA, 20 WIA for the Americans and 14 KIA, 26 WIA for the Japanese) and negligible damage to the ships involved. And while the Americans had certainly thwarted the Japanese in their attempt to reinforce Attu, they had also not succeeded in destroying the valuable transports which had managed to return to home base with their valuable cargoes intact. Even had the Japanese reiforcements reached Attu, it is unlikely that they would have effected the outcome of the American landings on Attu on 11 May 1943 which signalled the beginning of the end for the Japanese in the Aleutians, final capture of Attu and the construction of an all weather airfield there which became operational on 7 June, rapidly making the position of the other Japanese held island of Kiska untenable.

One final naval "battle" was fought during the Aleutians campaign. This occurred on the night of 25/26 July, 1943 when an American force of two battleships, three heavy cruisers and a strong destroyer escort intercepted a suspicious radar contact about 80 nautical miles south west of Kiska. During the next 30 minutes, over 1,000 shells of all calibre were fired until dawn revealed that the "targets" were radar echoes from the Aleutian mountains over 100 miles away. The incident became known as the "Battle of the Pips".

Under cover of this frenetic activity and a welcoming fog, however, two Japanese cruisers and six destroyers slipped into Kiska and slipped out again two hours later with the entire garrison aboard. The result was that when a combined American and Canadian force invaded Kiska on 15 August, 1943, they found the island abandoned (except for four dogs). The Aleutians Campaign was over.

# Letter from Canada *from page 22*

deployable and would be useful in protecting the operating base of the Canadian Task Group (CDNTG). These elements are now coming up to strength and are being equipped with RIBs and the necessary communication equipment to do their job. In the two 1995 MARCOT Exercises HDUs were used for the first time and proved their worth.

NCS has been traditional area for the NR. Yet even NCS has undergone significant changes. In MARCOT 2/95 the NCS was an integral element of the exercise for the first time. The Maritime Component Commander afloat had an NCS officer on his staff and commanded the NCS operation from the CDNTG command ship. An NCS officer was also part of the exercise directing staff and developments in this area were used to drive the overall MARCOT scenario. These initiatives have finally brought NCS into the mainstream of maritime operations and demonstrated it is an essential element, particularly in regional contingency operations. This initiative was a learning experience as much for the permanent service officers as their NR counterparts.

Like the RAN and RNZN, the Canadian Navy is calling into question time honoured practices and arrangements in all areas including the NR. The current initiatives to tie the NR to operational effectiveness is a welcome development. Undoubtedly, time will be required to digest all these changes. Importantly these initial landmark changes should make future change easier to contemplate.

[1] The other HQs are Maritime Command in Halifax (to move to Ottawa in a revised version in 1997), Atlantic Command in Halifax, Pacific Command in Esquimalt.

# The Gentle Art of the 'Situated Appreciation'

**by *VIKINGE***

The ADF has become like a middle aged, out of condition boxer who can still throw a good punch, but is losing 'puff', that is, stamina, motivation and ability to perform 'in the ring'. In an era of limited steaming time, flying hours, time 'under canvas' and deteriorating military ethos, it amazes this Vikinge that we are looking at spending hundreds of millions of dollars building up yet another headquarters (HQAST under COMAST) to suck more resources away from the sharp end and micro manage what is left of the ADF's 'muscle'. Sometimes it seems that the *Brass* are trying so hard to maximise certainty up top, and make their organisational wiring diagrams look neat for the pollies, that they are leaving the rest of us in the dark.

Sure, we need good command and control, but I thought we had it - or at least all the makings for it - in bucket loads! We have got HQADF (with a cast of hundreds), MHQ, LHQ, AHQ, HQNORCOMM, COMFLOT and great communications resources linking them. If we can't use these already existing building blocks to control our limited assets in the limited range of contingencies we may conceivably encounter, then there is something seriously wrong with us!

Building in yet another management layer (COMAST) is not a cost effective answer to improving ADF performance. Here are half a dozen good reasons why:

1. This new command/control arrangement fails to take into account fundamental organisational and strategic differences between the services.
2. In Australia's strategic circumstances, the neat typology of war being divided into discrete strategic, operational and tactical levels has become irrelevant. Strategic and operational levels have for all intents and purposes merged, and we don't *need* another headquarters to match the operational level.
3. A new, major headquarters cannot be justified in the light of strategic guidance.
4. The changed command/control arrangement will distort an already adequate and *adaptable* $C^2$ system.
5. Building in another management layer is unnecessary. Any command/control problems can be solved by using the abundance of already existing $C^2$ building blocks, rather than by building a new structure.
6. The risks, vulnerabilities and opportunity costs involved in setting up the new headquarters are unacceptable.

Before elaborating on these points it should be made clear that the need for a new operational level headquarters is, in the main, *doctrinally driven* and has not convincingly been demonstrated from operational/exercise experience over the last decade. The decision to develop an operational level HQ for Army was made in 1985, and this concept was extended to the other services shortly afterwards.

In June 1985, the CDF (General Bennett) wrote to the Minister stating that, *for land operations* there was, ' a need in peace to establish an operational level headquarters (ie. one which could operate below Army Office level in the field if necessary) which could be earmarked as a JFHQ'. Consequently, the *operational level* was introduced in the Army's *Manual of Land Warfare* in 1985.[1] The *operational level* soon appeared in *joint* doctrine in 1988, and this was influenced by the *Report of the Study into ADF Command Arrangements* (Baker Report) which championed the concept of war still being conducted at three levels - Strategic, Operational and Tactical. (Then) Brigadier Baker's broad command/control philosophy is best summarised in the following extract of his March 1988 report:

'....The implementation of a military strategy involves consideration of the broad levels of the strategic, operational and tactical levels. Because the nature of considerations vary at each level, military command structures will normally contain three matching levels of headquarters.....(the) operational level of command is concerned with the planning, conduct and control of campaigns...it is at the operational level where command arrangements are crucial'.[2]

This statement amounts to a big generalisation, and extension of the argument to the Australian defence context in general, and to the other services in particular, should be looked at very carefully.

## No account is made for differences between the Services

The changed command/control arrangements do not sufficiently take into account differences between the Services. Military strategy in the Australian context embraces continental *and* maritime strategy, and Australia's strategy of defence in depth is fundamentally a maritime strategy. Even if the three levels of war are still relevant to Australian *continental strategy*, and I will argue that they are not, they have *never* been any-

where near as relevant to *maritime strategy*. Serious difficulties arise with the extension of Baker's levels of war argument from the land situation to the maritime situation, and while an operational level headquarters *may* benefit Army command and control, we cannot assume that it will necessarily benefit the users of maritime strategy - the RAN and RAAF. In fact it is likely to slow these services down and lead to a lowest common denominator of performance.

The doctrine of the three levels of war arises from classical continental strategy which 'is marked by five main characteristics: Big Wars, Mass Armies, Offensive Action, Alliances and Geostrategic Inevitability'.[3] Maritime strategy has not been *moulded* by any of these determinants and this has led to fundamental differences in the way command is exercised in the services, and in the nature of control models used in different service combat environments. Command and control processes in maritime and continental environments also reflect basic service organisational differences (see Fig.1, page 63). While figure 1 relates to the US situation, differences in the Australian situation are only in terms of extent and not in nature. Navies and Air Forces have far less numerous, moveable subordinate entities/units to coordinate and worry about; much better communications with them; better two way information flow and much better tactical flexibility.

It is most important to recognise that the ADF is not *an* organisation per se. It is a *cluster* of organisations, with each Service organised on a *task basis* to focus on winning in a distinct physical environment. Each service is geared to dealing with highly ambiguous situations in very different environments and, historically, naval forces have operated as largely self contained entities operating independent of their higher command authority for relatively long periods. To reduce the need for detailed control, Navy has traditionally diffused authority through its highly flexible *Task Organisation* system of decentralised, temporary command structures.[4]

The maritime environment is the front line in the defence of Australia. The RAN and RAAF are by definition the main players, and their operations should not be governed by an overlay of philosophies and determinants rooted in classical continental strategy. The operational level as defined in continental strategy has not significantly influenced maritime command philosophy, and if a common denominator command/control system is needed, then it must match the command and control requirements of maritime strategy. To have the national command/control system clogged up with a command system premised on the imperatives of continental strategy would lead to clumsy use of valuable, sharp end maritime assets.

We will now look at the case that grounding ADF command/control in the three levels of war will probably dull Army response as well.

## Do the strategic and operational levels of war really exist today?

Some commentators suggest that in modern conflict the strategic and tactical levels have began to *merge*.[5] If true, this makes the operational level less relevant even in continental warfare. Therefore, much better reasons need to be found to build a dedicated headquarters to match and service the operational level of war.

Classical continental strategy evolved to meet the requirements of controlling large numbers of disparate units and resources with often poor communications and low tactical flexibility. The *operational level* came in with Napoleon's mass armies - He called operations *Grand Tactics* - when a quantum leap in the need to manage vastly more men and resources existed. The operational level of war remained highly relevant in general until the end of WWII, and remained basically relevant to the superpowers (especially the USSR) until the end of the Cold War. However, In the post Cold War Era, strong arguments exist that the neat typology of war being divided into strategic, operational and tactical levels is pretty well obsolete in general and irrelevant to Australia in particular. According to MacGregor, for example, the difference between the strategic and operational levels is now artificial even for the US; the levels have effectively merged due to improvements in communications and the changing nature and extent of modern warfare.

In Australia's case the need to retain an operational level of war in doctrine is even less: we aren't into having to control mass Armies to fight big, offensive wars. Therefore, if the operational level need not exist in the Australian context, we don't need a headquarters at this level to match.

## HQAST cannot be justified in the light of strategic guidance.

If we were planning to fight a rerun of WWII or a major conventional land campaign at short notice, then building a permanent, Theatre level headquarters may well be appropriate. A new, major headquarters simply cannot be justified in the light of strategic guidance and the nature and extent of threats that Australia is likely to experience. The number of likely defence scenarios are few, limited and only a relatively small repertoire of responses appears to be required. Setting up permanent, Theatre level operations and headquarters would appear to be 'overkill' and seems to *completely* ignore the fundamental defence planning principle of Warning Time.

In the Australian defence context we should not be

looking at building more headquarters when modern communications systems may well be used to facilitate direct delivery to tactical commanders from strategic decision makers, usually (but not always) via environmental commanders. Converting strategic missions into tactical missions simply does not require an intermediate headquarters today.

## The changed command system may distort an already adequate and flexible C2 system.

We saw earlier that the need for a COMAST and HQAST appears to be doctrinally driven; not really being demonstrated from operational/ exercise experience or failure. Furthermore, higher command/control performance in *real*, joint maritime operations *Morrisdance* (1987) and *Damask* (1991), for example, without an operational level headquarters, was considered excellent by several commentators.[6] In these two major examples, and several other cases, geographically separated Australian environmental commanders successfully acted as bridges between higher level policy considerations and local operational realities. This was achieved by maintaining continuous communications both with staffs in Canberra *and* with the commander chosen to actually undertake tactical operations. Most importantly, interactions from Australian naval forces on actual operations have *never* been decoupled from the control of national authorities using existing systems.

## Is another management layer really necessary? Aren't there simpler alternatives?

The theory goes that by setting up HQAST under COMAST we will achieve more unity of command and effort at the operational level and minimise points of difference between the three environmental commanders (points which have been constantly referred to HQADF). But what we seem to be talking about here are underlying 'human engineering' problems that may not be fixed by building more headquarters and having more reviews. Building a new headquarters for COMAST to keep the environmental commanders in line is an attempt to impose a largely structural solution to what is fundamentally a command *process* problem. While collocation may help at the margins of *high level* cooperation, the real issue is the exercise of effective command over environmental commanders by the CDF. Any required improvement in the higher joint cooperation problem should be fixed by process rather than restructure, at least in the first instance.

Collocation is not in itself sufficient to make the ADF's higher command system effective and reliable and, generally speaking, extra management layers tend to delay, duplicate and act as barriers. While collocation is likely to increase frequency of communication, and more personal contact may enhance consultation and understanding, there are less complex and less costly ways of achieving acceptable organisational control

**Service Organisational Differences and Their Effects on Command and Control**

| | USN | USAF | USMC | USA |
|---|---|---|---|---|
| | ☆☆☆ | ☆☆☆ | ☆☆☆ | ☆☆☆ |
| **Moveable Subordinate Entities** | $10^1 - 10^2$ | $10^2 - 10^3$ | $10^3 - 10^4$ | $10^4 - 10^5$ |
| **Rank of Subordinate Leaders** | Highest → | | | Lowest |
| **Communications with Subordinates** | Best → | | | Worst |
| **Information re: Subordinates** | Precise → | | | Vague |
| **Tactical Flexibility** | Greatest → | | | Least |
| **Command Principle** | Centralize → | | | Decentralize |

Source: Kenneth C. Allard, *Command, Control, and the Common Defense* (New Haven, Conn.: Yale University Press, 1990), Figure 6-3.

without adding yet another management layer to an already long chain of command. Better ways of increasing *connectivity* between environmental commanders exist. Shared understandings, a spirit of teamwork, and homogeneity of approach can *naturally* evolve between separated higher commanders through increased practise of common doctrine in exercises, and focusing on early and continuous exchange of information.

## Risks, Costs and Vulnerabilities

Setting up a new, major command/control node(HQAST) means setting up a key, single target comprising three collocated environmental commanders and their staffs. Considerable redundancy and survivability advantages exist in maintaining three relatively autonomous, environmental 'divisions' within the larger defence organisation.

Another point is that there are major opportunity costs associated with every collocation change. Collocation at one level usually means *dislocation* at another level; the question is: Which is the critical level? For example, the present collocation of the Maritime Commander and his staff at Garden Island provides many crucial advantages, including proximity to warships, their crews, their commanding officers and their maintenance and logistics support chains. Informal feedback mechanisms and mutual knowledge inherent in this collocation with 'the troops' is vital in terms of really knowing what their problems are and what the Fleet is capable of doing. If MHQ were moved from Garden Island this would be a major benefit *foregone*, or a major opportunity *cost*.

## Conclusion.

'Jointery' can be taken too far and may reduce the ADF to a uniform level of compelling mediocrity. As the Canadian experiment in jointery has indicated, a Defence force cannot be treated like *an* organisation; it is a *cluster* of organisations and must be treated as such no matter what the administrative inconvenience.

Each organisation is basically organised on a *task basis* to focus on a distinct physical environment; Sea, Air or Land, and differences in them must be taken into account - from the colour and cut of their uniforms to the design of their higher command and control processes. Cooperation is built up better by investing in increasing the frequency of actually working together in operations; not by building more headquarters.

The challenge of reconciling the fixed, hierarchical organisational principles of the continental school of thought with the more horizontal organisational structure that emphasises decentralisation favoured by Navies and Air Forces is not new. But there seems to be a *growing* tension between the hierarchical imperatives of continental strategy and the task orientation of maritime strategy users in the Australian defence context. In accordance with clear strategic guidance, maritime strategies and operations must have *primacy* in Australia's first line of defence, and should not be unreasonably distorted by, or subordinated to, the underlying philosophies and determinants of classical continental strategy. The hierarchical command and control processes derived from past, big, offensive wars are simply not relevant to the Navy or Airforce, and are likely to be obsolete for the Army of the 21st century.

The operational level of war is an expensive *invention* that does not need to exist in the Australian defence context, and we don't need an operational headquarters to match this level of war. Imaginative use of current command/control building blocks - and there are lots of them available right now - can provide unity of effort, centralised direction, decentralised execution, interoperability and common doctrine. CDF must exercise command through improved processes and not through more complex hierarchical structures.

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1 See D. Horner, *The Gulf Commitment: The Australian Defence Forces First War*, (Melbourne University Press, Carlton, 1992) pp. 9-11.

2 Brigadier J.S Baker *Report of the Study into ADF Command Arrangements*, March 1988

3 D Horner, 'The Continental School of Strategic Thought', *Defence Force Journal*, May/June 1990, p.39

4 See K. Allard in *Command, Control, and the Common Defence*. Allard explains how differences in land and maritime combat environments have led the services to different models of command and control (For a brief summary see fig 1on p. 63 of this article).

5 For example, see D. A. MacGregor, 'Future Battles: The Merging Levels of War.' *Parameters*, XXII (4), Winter 1992/93, pp. 33-47 and K. G. Carlson, 'Operational Level or Operational Art?' *Military Review* Oct. 1987 pp. 50-54

6 See Col.A.S. D'Hagé, 'Operation Morrisdance: An Outline History of the Involvement of the Australian Defence Force in the Fiji Crisis of May 1987', *Defence Force Journal*, Jan-Feb 1990, pp.4-13, esp his conclusion at pp.12-13. Also see, D. Horner, *The Gulf Commitment* , op cit ,Ch 2 - Command Structure, pp. 4-23.

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