DEFENCE FORCE JOURNAL

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A CH-47C Chinook of No. 12 Squadron RAAF, Amberley, carrying out a running landing on Lake Moogerah, Queensland. The sequence is one of a number practiced regularly during water training exercises held every three months.
WE START the year with a handful of thought-provoking articles on weapon strategy in general and the Navy in particular. It is to be hoped that they will raise some interesting debate in the letter columns. As Editor, I get frustrated by people telling me what is wrong or right with a particular article, when they could be putting their often excellent arguments on paper, thereby letting a wider audience judge them on their merits. However, there are sufficient readers who find the time to write, including, I am delighted to say, Dr Robert O’Neill, who certainly must have his time fully occupied, to make the Letters to the Editor section a very worthwhile forum.

Two other articles deal with the human side of war and the chivalry, or lack of it, shown by one human being to another. In spite of the advent of the electronic era, war will still be waged between people, as long as avarice overcomes reason in the human mind. To use Colonel Joe Viksne’s words in his review of the book *The Electronic Battlefield* in this issue, the contention that the dehumanizing of the taking of life makes war a more attractive option is “a debatable point.” With the Machine, appears to have come a seemingly total disregard for human life and suffering, which in the past four decades has been practiced by nations and peoples calling themselves civilized. Far from diminishing in this ‘enlightened’ age, this callousness seems to be on the increase, and it can only be seen as an affront to humanity and to God.

Colonel R. S. Lawson, the author of the lively article on the Sydney and the Emden, died in July, but we are most grateful to his widow, Mrs Marjory Lawson, for permission to print this and a future article of the Colonel’s on the Boer War. We extend to her and the family our deepest sympathy on their loss.

I am still waiting for about twenty book reviews, some of them going back over a number of months. It is only fair to the authors, the publishers who kindly send us review copies, and not least to the readers, to return book reviews for publishing as soon as possible. It is appreciated that many books take a great deal of time to read and research, and that reviewers’ time is all too often at a premium in an already overcrowded schedule, but, remember, a book review must be current to be at its most effective. Please, Ladies and Gentlemen, if you find that you cannot complete a review in reasonable time, hand it in. There are many others who are eager to take on the task.

You will note two changes on the inside front cover. Group Captain John Gibbins is replaced by his successor as Commandant, RAAF Staff College, Group Captain Chesterfield. I am moving my office to a, thankfully, larger one in Building C, my new telephone number is 65 2682.
OCTOBER WAR

Having only recently received the May/June edition of the Defence Force Journal I have been unable to comment earlier on the 'observations' of Major G. A. Mayes in his letter "Observations of a Un Observer".

As an RAAC officer I take exception to a number of points which I believe are assumptions rather than observations.

A great deal of conjecture has followed 'The War of Atonement', much of it based on the assumption that because of the initial successes of Arab infantry, short to medium range anti tank weapons—the tank is dead. It should be remembered that on the Syrian front alone Israeli armoured forces destroyed some 1150 Syrian tanks and over 150 Iraqi and Jordanian tanks. Israeli losses at the cease fire on this AO were 250 tanks of which only 100 were a total loss. Nearly all Arab tanks in this AO were destroyed by Israeli armour using fire, manoeuvre and tank tactics.

Major Mayes, in what I feel is a one-sided view, points out that General Gonen in the Sinai lost his 190 Tank Brigade. It should be noted that this is not correct. General Gonen only lost part of his Brigade and the number of tanks lost was relatively small compared to later Egyptian losses purely because of Israeli armour. On the 14 October General Magen's Israeli Division almost totally destroyed the 21st Egyptian Armoured Division—the whole 1st Egyptian Tank Brigade was destroyed and the 21st Egyptian Division lost in one day 110 tanks. During the battle over 264 Egyptian tanks were destroyed for an Israeli loss of 6 tanks.

Shortly after, Israeli armour using the traditional steel punch and shock action of the tank cut off the 3rd Egyptian Army and while pandemonium broke out in the Egyptian forces produced a situation which prompted a cease fire.

I disagree with Major Mayes’ comment “the time-worn statement that a tank is the ultimate weapon to use on another tank is one which observers of the October War no longer believe”. There are many RAAC observers of this war which would disagree. Chaim Herzog in his brilliant exposé, The War of Atonement disagrees. So would Generals Sharon, Gonen, Bar-Lev and many others with perhaps a more intimate knowledge of the problem.

There is no doubt the Australian Army requires to develop expertise and equipment to provide a flexibility in short and medium range anti tank defence. There is no doubt that missiles, anti armour helicopters and a variety of other anti armour concepts jointly produce a sound strata of anti armour defence. However a good tank, a trained crew the application of the armoured state of mind and mobile shock tactics will continue to be the best means of anti tank defence and the hammerhead of the attack. The War of Atonement proved this fact.

The Australian Army has purchased 101 Leopard tanks (not 50 tanks) and the price paid is compensated in that the few professional tank commanders of our army can continue to keep alive the art of armoured warfare.

10th Light Horse Regiment, P. Van Rooyen Karrakatta, W.A. Captain/Adjutant

2. ibid.

THE PROBLEMS OF MAPPING

In the early part of his article That Factor — Terrain (DFJ No 6, September/October 1977) Major Lyons comments on the influence that the Ordnance Survey and its mapping of Great Britain has had on military mapping. His comments on the origin of the OS and its mapping scales are misleading.

The early mapping of the OS was a general topographic series, based on General Roy’s
mapping experiences in the ‘passification’ of Scotland, at a scale of 1 inch to 1 mile (1/63,360), not an artillery series at 1/25,000 as stated. The first sheet in this OS 1-inch series was published in 1801 and was of the county of Kent (at that time under threat of invasion from Napoleonic France). The 1-inch series remained the national military mapping series until superceded in 1974 by the new Series M726 1/50,000 map (national cover being achieved by 204 sheets of a 40km x 40km format). This has brought the UK in line with other NATO countries where mapping at 1/50,000 scale is the common military requirement.

Major Lyons puts undue influence on the OS mapping at a scale of 1/25,000. The earliest maps produced by OS at this scale (in fact at a scale of 2½-inch to 1 mile or 1/25,344) were in a limited military series of parts of South East England only, during World War I. A national series at 1/25,000 was not introduced until after the OS had been civilianised. The national series at 1/25,000 was introduced in 1965 (national cover requiring about 1400 sheets of a 20km x 10km format) and due to a lack of general support, including from the military who have not adopted it as a military series, the series was nearly abandoned in 1973. Pressure from recreational bodies and some professional bodies saved the series and completion of the national cover at this scale is currently scheduled for the mid 1980s.

When considering the disadvantages of the parametric method of terrain evaluation, requiring mapping at 1/25,000 scale, it is as well to bear in mind the logistical problems associated with the supply of terrain intelligence to a highly mobile mechanised army in the field, based on a 1/25,000 map series that covers only about 12km x 14km per sheet. The tonnage of paper that must be moved to maintain an adequate map supply system is frequently overlooked during peace time exercises confined to a training area. Whereas most young officers are well versed in how to get a replacement tank into the battle, how many have the same knowledge of how they obtain their replacement maps?

I. F. G. Whittingham
Captain, Royal Engineers
UK Exchange Officer, Army Survey Regiment, Bendigo, Victoria

Major Lyons has made some good points in his article (DFJ No 6 September/October 1977) about the importance of Terrain (into which he groups climate) in military affairs. The same case can be made for infrastructure intelligence and I am sure that Major Lyons would agree with this.

An aspect of his article which needs comment is his apparent enthusiasm for the ability of terrain evaluation systems to predict terrain properties. This is as fruitful an approach as the search for the philosopher’s stone: we can now turn base metals into gold but it’s cheaper to produce the real thing. The work done by MEXE (now MVEE) was dropped by the British Army in the late 1960s because the gradient of the cost curve was so much greater than that of the results curve. A basic problem lay in the attempt to obtain detailed intelligence without a ground reconnaissance. This was, and in some circles still is, the great delusion. Much can be inferred from small scale maps and airphotos, but there comes a point when the micro-structure (ditches and boulders, for example) becomes so important that visual reconnaissance is essential.

Approaches discussed by Major Lyons are really approaches to terrain classification. This is useful, and the CSIRO work done by Dr K. Grant is reasonably well known in Army circles. But there is a big difference between developing a vocabulary to describe terrain and the extrapolation of engineering properties (for example) from one area to another.

As Major Lyons has pointed out, a vast amount of information already exists on Australia’s terrain. The challenge is to provide for the ready retrieval and up-dating of the known relevant facts, so that progression to the unknown can be planned. Any woolly approach to collecting and storing terrain information will be both wasteful of resources and ineffective.

Director of Engineers — Army
P. J. Day
Canberra, ACT

TACTICAL AIR POWER

In his comment on my opening paper at our Conference on The Future of Tactical Airpower in the Defence of Australia (DFJ No 6, September/October 1977), Group Captain Sut-
ton makes some interesting points. Let me make a brief reply.

It is true that in World War II multi-role aircraft were, in many cases, failures. However, given the technological advances which have taken place since then, it is now possible to give an aircraft of outstanding air-to-air combat capability a very formidable surface strike capacity in terms of weapons types, payload, range and detection capability. For the defence of Australia against attack by sea or by air all of these capabilities appear very desirable to have. Are there better trade-offs to be made by choosing two or more aircraft types for these roles? In a large air force, maybe. For the TFF procurement, probably of some seventy aircraft or less, we would incur heavy penalties in overheads by purchasing two or more aircraft types and we might lack the capacity to concentrate force which is so essential for credible deterrence. Hence I favour a single aircraft purchase. If we were in the market for over 100 aircraft, a purchase of two types would be a more attractive option.

I do not see the Soviet Union as a probable threat to Australia, rather than a possible one. Does Group Captain Sutton?

The general tone of the Group Captain's comments suggests that only fighter pilots should be permitted to discuss tactical air power in public. Although I wish that more of them would do so, rather than leaving such discussion to journalists and academics, I would suggest that first they understand conventional strategic terminology. A 'high-low mix' does not refer to the altitudes at which aircraft operate but it is a general term, applicable to all types of equipment of all services, indicating a mix of capacities.

Robert O'Neill
Head,
Strategic and Defence Studies Centre,
Australian National University, Canberra,
ACT

THE AUTHOR REPLIES

Although Dr O'Neill is kind enough not to make it, a fair criticism of my article would be that it is not constructive.

My theme was the folly of fools rushing in. I regard myself as one of the fools because I have not flown a front line aircraft on an 'operational mission', nor planned one, for eleven years. I hope Dr O'Neill will see why I am wary of those who are dogmatic about air strategy, especially when their knowledge about weapons and aircraft performance is second hand. No instrument of war is less forgiving of mistakes than the aircraft, and none makes more demands on the individual, from the man in the cockpit to he who refines the operational requirement.

Even if he himself has not been on the receiving end as he flies a second best aircraft in war, the wise planner should be gravely suspicious of statements that an air-to-air combat aircraft can be given "a very formidable surface strike capacity ..." I suggest that performance cannot be discussed in such terms. I would prefer to ask, "does he mean better air-to-air performance than the opposition?" And if he suggests that the opposition may be flying something less than the best, I become more wary than ever.

Far from believing that "fighter pilots should lead the whole debate", I think that it is an arguable proposition that what Australia needs is not a handful of interceptor fighters, but SAGW around a necessarily limited number of vital and vulnerable points.

'High-low mix': it looks as though what I had intended as gentle irony was misunderstood. I am grateful for Dr O'Neill's definition, but it is just the sort of vague 'brochure talk that should have no place in the vocabulary of informed users. Whether it is composed of pure strike aircraft or hybrids, unless it is to operate in assured conditions of air superiority, the RAAF must be prepared to fly and fight at all levels.

Dr O'Neill's concluding remarks are puzzling. In the context of operational requirements I have to confess I do not know what he means, nor have I met anyone in the planning business who can enlighten me.

Do I see the Soviet Union as a probable threat to Australia rather than possible one? I answer "probable", because I take the word 'threat' itself to be more than a mere hypothesis and something nearer an indication of how we must prepare for the worst case.

F. B. Sutton
Group Captain, RAF (Retd)
RAAF PRO, Sydney, NSW
Lieutenant Commander I. M. Speedy, DSC
Royal Australian Navy

'The Counsil (sic) which Themistocles gave to Athens—Pompey to Rome—Cromwell to England—De Witt to Holland—and Colbert to France . . . that as the great question of commerce between nations and empires must be decided by a military marine, and war or peace are determined by sea, all reasonable encouragement should be given to the navy. The trident of Neptune is the sceptre of the world.'

— John Adams, 1802

INTRODUCTION

THERE are many causes of war. All too often the factors causing war are not seen until after the event. Hitler announced on 16 March 1935 that he was raising a conscript army of 36 divisions—quite contrary to the provisions of the Treaty of Versailles—thus leaving himself open to legal redress from France. The day after the world saw Chamberlain's 'scrap of paper', Czechoslovakia was taken over by the Germans. This is but one example of many which could be cited.

In all the conflicts since 1939, the average time taken from what is considered as the first indication of impending war to the firing of the first shots has been 14.3 months. If the smaller scale conflicts since World War II are to be representative of a future Australian conflict, the combined Perception and Warning Times of those conflicts since 1950 may be more meaningful. The time has now shortened to a frightening 10.6 months. Available evidence is not able to place Australia outside these statistics. There is a 50 per cent probability that conflict could occur in less than 16 weeks.

Our treaties with other countries, especially the USA, are not strong enough to guarantee automatic assistance from any of our treaty partners. The ANZUS Treaty only specifies consultations '. . . to act to meet the common danger.' American help upon which we have so heavily relied previously may not be forthcoming. The 1972 Nixon Doctrine and later warnings from Dr. Kissinger apply equally to Australia as to others—that nations cannot expect America to be their policemen and that they must carry the burden of their own defence. The Arab/Israeli War of 1973 demonstrated this resolve.

It is evident that no nation can gird itself for the gigantic efforts required to fight a modern war without the formulation of a definite programme for the guidance of economic activities.

Lieutenant Commander Speedy joined the RAN in 1962 and has flown as an observer in Wessex ASW and Sea Venom Day/Night Fighters from HMAS Melbourne. In 1967 he gained his pilot's wings and was Dux at BFTS and Best Pilot at AFTS. He was posted to the 135th Assault Helicopter Company with the RAN Helo Flight Vietnam in 1968/69 where he was awarded the DSC. After QHI course and two years' exchange flying training with the RN he commanded HT723 Squadron at RANAS Nowra. He gained his Bridge Watchkeeping Certificate in HMAS Parramatta in 1974 and later that year was Equerry to Prince Charles during his Australian Tour. In 1975 he was Senior Pilot and later CO of HHS817 Wessex ASW Squadron. After the Army Staff College course in 1976 he was posted to Navy Office where he is currently serving as a Staff Officer in the Manpower Branch.
within the nation and without considerable advance preparation. War goods do not exist in quantity and as evident in Australia even the facilities required to produce them en masse are not available. The larger the war effort in proportion to the resources of a nation, the greater the necessity for the adoption of a comprehensive plan. The greater also is the danger inherent in assuming that business may proceed as usual.

By definition the Australian ‘Core Force’ must achieve the development and maintenance of the capacity to produce a range of terminal forces that could be required in the future. The ‘Core Force’ must be adequate for our present needs and be capable of reacting quickly and decisively to low level contingencies. Most importantly the ‘Core Force’ must provide the solid basis upon which rapid expansion may take place to a ‘Terminal Force’ the abilities of which are dictated by the specific threat at the time. This article will argue that as yet we do not have a naval ‘Core Force’ and that an expansion of the RAN must take place to achieve it. Because we do have a period of relative stability we must make the most of this valuable time. When war is thrust upon us we must be capable of defending our own country ourselves — it could cost us Australia.

THE PRESENT FLEET

ASW Leanings

Since the late 1950s there have been advances in the capabilities and numbers of submarines out of all proportion to the capabilities of the surface units to counter this threat. Submarines can attack surface shipping from ranges far in excess of those of retaliatory weapons. It is impossible to ignore submarines and yet to counter them effectively requires resources out of all proportion to their numbers. Against a global submarine threat and enhanced by the significant Indonesian submarine fleet in the 1960s, Australia’s contribution to the balance of power in our area of responsibility has been the development of anti-submarine warfare (ASW), of ships, weapons and sensors.

There are only sixteen ships which make up the fighting elements of the Navy and all have a significant ASW capability — HMAS Melbourne, our flagship, with Seakings and Trackers; the six River Class DEs; the three Perth Class DDGs; two Daring Class destroyers; and the four Oberon Class submarines.

By 1978 the number will be 18 when the latest two submarines are accepted for service but what will we have in 1984/85 when the 10 to 15 year ‘no threat’ era is drawing to a close? HMAS Melbourne may or may not be replaced, the Patrol Frigate FFG-7 may have by then replaced the Darings. The DDGs will be 20 years old, and the DEs will range from 14 to 24 years’ service.

In other than ‘teeth’ units we will have hopefully had HMAS Supply replaced, HMAS Jervis Bay as our training ship, HMAS Tobruk as the Assault Landing Ship Heavy (LSH) and the Attack Class Patrol Boats replaced by an equal number of either the British PCF 420 or the German FPB 45.

All in all we will have weapons systems on our ships that our likely enemy may have had for some time. Difficulties in our 1976/77 capabilities will have been reduced by 1984/85 but how well will they compare to 1984/85’s actual requirements?

The Fleet Air Arm

In 1984/85 the Fleet Air Arm (FAA) will have the same aircraft that it has now. The Skyhawks will be due for replacement though they could continue in shore service for longer. The replacement Trackers and Seakings will last until 1990, and may have been fitted with the BARRA sonobuoy system.

The decision to replace HMAS Melbourne in 1985 will have to be made by 1979. If she is replaced, Naval aviation will be fixed permanently as a strong arm of our forces or as a small addition to the land-locked RAAF.

1984/85 will be a turning point for the Navy. It may be able to continue to the 21st Century with confidence in its strengths and abilities or it may not.

REQUIREMENTS OF THE RAN Present Limited Needs

One requirement of the ‘Core Force’ concept is that it shall be sufficient for our present limited needs and foreseeable contingencies. In determining these needs, the answer to the question ‘What should our defence strategy be?’
will give the necessary guidance. There are several correlated factors which when studied will give the answer. They are:
- Australia’s foreign and economic policies,
- the Nixon/Guam doctrine of 1972 and its implications on the ANZUS Treaty,
- Soviet aspirations, and
- the implications of the Law of the Sea.

**Foreign and Economic Policies**

Indonesia controls three deepwater passages between the Indian Ocean and the Western Pacific; the Wetar, Sunda and Lombok straits. She has a controlling interest in the fourth—Malacca. The preponderance of Australian trade is carried through these straits to Japan. At the same time Indonesia is becoming an important resource supplier of Japan. The ability to use these straits when we are in direct competition with the controlling authority and with whom we have had troubled relations, must rely on Indonesian goodwill. South East Asian regional security as well as our own will be heavily influenced by the development of cooperative policies and programmes with this nation.

In the Western Indian Ocean, India and Pakistan are preoccupied with internal problems and have only recently established new relations after the agony of Bangladesh. Iran is

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**PROBABILITY OF REDUCED WARNING**

There is a 50 per cent probability that the warning time will be less than 16 weeks.

Figure 1
proceeding rapidly with a military expansion programme to fill the gap left by the departure of Britain from the Persian Gulf, to protect the flow of her Middle East Oil, and to back other national policies of the Shah.

What ought Australians to conclude from these developments? The first conclusion should be that the military posture of today will not be adequate for tomorrow. The assumption that radical change in Australia’s strategic situation is unlikely to occur suddenly cannot be justified. The world scene does not change in progressive fashion and there are a great many reasons why we may witness dramatic changes. Deterioration of the world economic situation, shortages of resources or the demand for them, the Asian population explosion, the communications revolution, mass demand for better living standards, disagreements over maritime resources, proliferation of nuclear weapons, ideological revolution: any or all of these factors could initiate dramatic shifts in our situation, and there may not be time to develop the necessary forces. There is no evidence to suggest that Australia could not be at war in a period shorter than we ever thought possible.

Nixon Doctrine and ANZUS

President Nixon in 1972 was most positive when he stated that it could not be taken for granted that America would automatically come to the aid of nations seeking her help. The American withdrawal from Asia marked the end of the containment policy which tried to prevent the spread of Asian Communism. The era of self-help had begun and been reinforced by the successor US administrations. Australia therefore moved toward a more neutral stance (Labor’s continental and neighbourhood defence rather than forward defence).

The Nixon Doctrine was amply demonstrated during the Arab/Israeli War of 1973. When America did finally come to the aid of Israel, it was America that dictated the terms, which were not wholly acceptable to Israel. Though it is not unreasonable to expect that Australia is held in high regard by the US and we do have some of their very important facilities here (just as Israel has US facilities), there is no evidence to suggest that the US will respond in any other way than that called for by the ANZUS Treaty — negotiations in the event of armed aggression.

Soviet Aspirations

The Indian Ocean is important to the Soviets for many reasons and Soviet activity there forms a pattern consistent with the secret protocol of the draft 1940 Four Power Pact. The USSR declared then ‘that its territorial aspirations centre south of the national territory of the Soviet Union in the direction of the Indian Ocean’. It is the access to the belly of Russia, and with the Suez Canal reopened the Indian Ocean will be the highway between their Atlantic, Mediterranean, and Pacific fleets. The Russians are thought to have long desired a port in this region with road and rail access to the homeland. They are thought to have a long-range plan to achieve this goal by splitting off Baluchistan from Pakistan, as a Russian puppet state. They already have the use of port facilities in Aden, Bangladesh, India and Somalia. They use these bases to support their ‘presence’ operations and promote political influence. At the same time Soviet trade with the littoral states, from Kenya to Sri Lanka inclusive has, during the eight years 1960-67 increased at 13 per cent per annum, and during the years 1968-76 increased 12 per cent. This accounts for 5 per cent of all Soviet foreign trade. By 1980, it is clear from Russian statements that they expect to be net importers to the extent of 90 million tons per annum of Arab oil.

These regional ambitions must also be viewed in the light of huge Russian investment in maritime assets operating in the Indian Ocean which include merchant shipping, fishing fleets, and whaling fleets. This ocean provides their shortest and most natural access to the untapped resources of the Antarctic.

Law of the Sea

At the United Nations conference in 1974 on the Law of the Sea one proposal which gained considerable support and which will probably succeed soon is that for the 200 miles economic zone — an off-shore area of a coastal nation over which there would be exercised total control of economic resources both within these waters and beneath them; and a twelve mile territorial sea to coastal states. Peru and Chile have long claimed the 200 miles, Iceland has
had accepted its borders, the EEC, America, Russia and Japan have followed suit. Of any nation, Australia has the most to gain, in all an area equal to the size of Australia and this does not include the waters off Antarctica.

A serious problem caused by the ‘Continental Shelf Convention’ is its division when the shelf is shared by two or more states. It calls for agreement to be made between the nations concerned; Australia has problems yet to be faced in this area. The shelf between Queensland with its Torres Strait Islands and Papua New Guinea, is one. The other, potentially more serious is that of the shelf between Indonesia and ourselves. At one point it has a deep trench (50 miles from Indonesian Timor) which has been ignored. At the time of the agreement the equidistant rule was applied so that Indonesia now has some ‘Australian’ Continental Shelf. No agreement was reached with Portuguese Timor. With Indonesia’s annexure of Eastern Timor being ignored by Australia, the position of the Continental Shelf may cause future difficulties especially as the area has huge oil potential.

Of vital interest to Australia is the contention by the Philippines and Indonesia (and others) that all waters enclosed by the baselines drawn from their outermost islands in conjunction with the 12 mile limit forms a territorial sea. It is unlikely sufficient support can be raised for this contention, but it could effectively close off any passage between the Western Pacific and the Indian Oceans except at the whim of the nations controlling the straits.

**SUMMARY**

The pressures being advanced against us are increasing. Though the worst case may never happen, we must ensure against it. The US might come to our aid and on terms that do not affect our ultimate sovereignty. We may be able to develop full and open relations with our closest neighbour rather than the stand-off ones we now have. The Russians may never turn their attentions on us or apply pressure on us through a neighbour. All the nations of the world might respect our resources zones. On the other hand the opposite could just as easily occur.

Australia’s present defence needs are not limited. In describing the scale of conflict, Low Scale Conflict could be those military situations which could be handled to conclusion within our present organisation and structure, while Medium Scale Conflict could be those situations which cannot be handled to conclusion without an expansion of the Defence Force. Prolonged protection of our off-shore oil rigs or other possessions would be an example.

We have at this moment regular incursions of Indonesian, Taiwanese, and occasional Russian fishing vessels off the north-west, eastern, and Carpentaria coasts. This is potentially the richest stretch of our coast, yet we only have a few patrol boats in Darwin and Cairns to try to police its 4000 miles. What are we going to do in 1985 when we will have the same number of patrol boats and a resources zone out to 200 miles to police?
More properly, the question should be, what should Australia's defence strategy be? The answer—the use of the natural barrier which separates our continent from our neighbours: the barrier in which more and more nations are becoming interested and the barrier, the mastery of which holds the key to mainland Australia. Since any potential enemy must use the sea, force levels and composition must be selected to provide a high degree of assurance that any amphibious force could be destroyed before it gains access to the homeland. Australia’s defence force must provide the deterrent against attack which plainly can only come from the sea.

Resources Protection
The enormous size of the resources protection task and how little our capacity to deal with it, were earlier described. When the new patrol boats arrive they will not increase our capabilities significantly, being replacements, not additions. To date we have not acknowledged Antarctica and our Southern Ocean possessions as a problem. When the 200 mile resources zone is agreed to, these areas will assume a special significance in view of their remoteness, their enormous potential wealth, and our lack of experience in these areas. When we acknowledge the resources zone of the Southern Ocean, patrol boats will be inadequate for the task and ships of frigate size will probably be required.

The protection of our coastal installations and off-shore facilities from terrorist type activities in a low threat situation is a subject in itself. Generally, the resources required to counter this threat fully would be beyond us, if force were to be met with force. An answer to this problem is the provision of a credible deterrent. This could be achieved simply by maritime surveillance and reaction vessels capable of providing timely assistance where needed. The RAN’s Operation TROCHUS has proved the value of this type of surveillance, but to be in any way effective in the 200 mile zone or against increasing numbers or more determined opposition, there has to be a much larger availability of ships and aircraft. Project JINDALEE may reduce the dependence on aircraft but in the final analysis a ship is the only means of interrogating and deterring another ship.

The few patrol boats we have are not enough to police 4000 miles of coastline against unarmed fishing boats. If the 200 mile Extended Economic Zone (EEZ) is to be given reasonable protection double the number on patrol may come closer to our requirements. The question now posed is do we allow all and sundry to take what they want or do we keep our waters free from foreign poachers and thus prove our strength and determination. A foreign power seeing an inability to keep fishermen away must surely be able to draw further conclusions regarding the rest of a Navy.

The Fighting Ships
The aircraft carrier, destroyers, frigates, and submarines which make up the Navy are sixteen in number. They play a vital role in the low and medium scale threat situation, up to the limit of their numbers. They provide a credible deterrent to a nation having fewer ships and a grievance with us. Should there be a breakdown in relations leading to hostilities with a better equipped nation, the following questions need to be asked of our Navy:

- Is it large enough to cope with the foreseeable contingencies of medium scale threats?
- Can it stand as a force on its own from the time the threat is acknowledged by the Government, to when an operational response may be thrust upon us perhaps only 10 months from now?

Sixteen ships will not go far especially when the lead times needed to purchase new ones are
taken into account. While we are purchasing new ships it must always be borne in mind that they are replacements not additions and even at this late stage it is by no means certain that Melbourne will be replaced. Eleven destroyers of various age, four submarines (six by 1982) and one carrier do not appear a formidable line-up around our 12,000 mile coast given the unlikely event that all ships are available—dockyard employees willing.

**RESPONSE TO THE THREAT**

The present fleet provides a deterrent with the exception of the resources protection. Australia's big weakness is the ability to respond with adequate speed to a perceived threat. We live in a time of comparative regional stability, but when a breakdown in relations occurs the statistical evidence all points to the fact that the deterioration is rapid and violent.

The timings associated with every order for new equipments are unique to that equipment and it is difficult to establish lead-time relationships between new equipments. From information that is available, the time from the inception of a project to its completion or delivery of the goods is in the order of 95 months. Little information is available on the times for the construction of works and facilities such as docks and airfields, but it is about 10 years. Training facilities' times are in the order of 85 months. Simulators for example, are frequently ordered in conjunction with major weapons systems. In the years prior to and during World War II, project times were 44 and 20 months respectively. Of the 24 Corvettes begun in August 1940, the last was completed in the end of 1943.

Although Australia produced much of its own equipment during World War II, whether or not this could be repeated in the context of present or future technology is open to question. The matter under consideration is the ability to expand once we are under threat. If we can expand rapidly enough under threat then we have our 'Core Force'. If not, then in this period of no threat we must expand to the larger force to cater for the threat contingency.

Since the construction of major ships has been largely outside Australian control, and generally involves long lead-times, it is impossible to assess what time savings could be achieved. For projects involving local produc-

**TABLE 1**

<table>
<thead>
<tr>
<th>Ser</th>
<th>Conflict</th>
<th>Point</th>
<th>Perception Time</th>
<th>Warning Time</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>View</td>
<td></td>
<td>(Months/Days)</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>World War II</td>
<td>Britain</td>
<td>39</td>
<td>12</td>
<td>51</td>
</tr>
<tr>
<td>2</td>
<td>Indo China</td>
<td>France</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Indo/Pakistan</td>
<td>India</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Arab/Israeli</td>
<td>Israel</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Malayan Emergency</td>
<td>Britain</td>
<td>14</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>6</td>
<td>Korea</td>
<td>US</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>China/Korea</td>
<td>US</td>
<td>17</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Arab/Israeli</td>
<td>Israel</td>
<td>33</td>
<td>13</td>
<td>46</td>
</tr>
<tr>
<td>9</td>
<td>Cuba</td>
<td>US</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Confrontation</td>
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<td>12</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Indo/Pakistan</td>
<td>India</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>Arab/Israeli</td>
<td>Israel</td>
<td>15</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>13</td>
<td>Czechoslovakia</td>
<td>Nato</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>Indo/Pakistan</td>
<td>India</td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>Arab/Israeli</td>
<td>Israel</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>16</td>
<td>AVERAGE</td>
<td></td>
<td>8.8 mths.</td>
<td>5.5</td>
<td>14.3</td>
</tr>
<tr>
<td>17</td>
<td>AVERAGE SERIALS 6-14</td>
<td></td>
<td>6.6 mths.</td>
<td>4.0</td>
<td>10.6</td>
</tr>
</tbody>
</table>
tion, a saving of at least 25 per cent should be possible. This suggests that peace-time procurements could be reduced to 67 months (56 months training systems). However, even if lead-time could be reduced to construction time alone, the figures for men-of-war are still far in excess of the Perception and Warning times.

MANPOWER

The most critical factor in the Navy is its manpower base. The current ceiling of the Navy is 16,380. No fleet unit goes to sea without being fully manned, which in past years has left the shore establishments threadbare in some categories. Liberal retirement benefits have denuded the Navy of its vital middle management at a time when the Defence Department is swallowing officers at an incredible rate. The picture is not a pretty one.

To alleviate part of the problem, the ceiling must be raised above the 16,380. We have had to turn many prospective recruits down because of the ceiling. In theory for every man at sea there are 1.1 ashore. If this were so, equitable sea/shore ratios would prevail (the ideal being 18 months each way) but some personnel spend an inordinate time at sea simply because they cannot be relieved.

Raising the manpower ceiling by a set amount each year will help. The Navy could recruit into the critical areas where the first priority is to reduce shortages and thereby the inequitable sea/shore ratio, a cause of much dissatisfaction. Next the planned incremental growth will permit the go-ahead with capital projects to which we are already committed. Should the ceilings not be raised, there are four options.

A reduction in the recruit training time would reduce the number of training ineffectives. This is of only short term benefit — three years — as the lack of training will ultimately be reflected in performance especially in the technical fields upon which the Navy increasingly relies. By reducing capital projects either by cancellation or deferment, money may appear to be saved. Unfortunately, deferring Year One growth (not the shortfall) does not mean you start Year One next year. Manpower increases are based upon, say, a new destroyer in Year Five which in turn was based on the life of the ship being replaced and taking into account modernisation programmes, refits, dockyard capacity and the replacement of the other fleet units themselves. The deeper this argument becomes, the more unacceptable the long term results.

The third option is to reduce the operational commitments, i.e. reduce the visible arm of Australia's foreign policy through which we display our National identity and resolution. With the 10 per cent cuts of 1973, Navy carried on as it had always done and denuded the shore establishments to keep the fleet at sea. With the same ceiling four years later the shortages are now critical. We have managed in the past but with increased commitments in most areas (Defence Central, fishery surveillance, North West Cape, Zetland, and WANSF to name a few) 'in house' reallocations can go on no longer. Some commitments may have to go and for reasons of foreign policy, it can not be the Navy's decision.

The final option is the reallocation of finance within the Services but it has caused so much strife in the past that this avenue would have to be very carefully used.

None of these options is pleasant but to this writer the first and final options would be the least harmful in the short term. The second and third are unacceptable.

CONCLUSIONS

We have a natural barrier which separates us from our neighbours — a barrier which must be mastered if our sovereignty is to be disturbed. A strong naval force is the most effective deterrent to offer would-be aggressors. It is naive to assume that the USA will automatically assist us in any armed conflict — or she could have her hands full when otherwise willing. The Nixon/Guam Doctrine reinforces this position and leaves Australia to face the reality of being responsible for its own defence.

The present fleet will remain relatively unchanged up to 1984/85. Some ships will have been replaced but this is only an acknowledgement of the requirement to keep pace with the technological advances common to other navies, rather than increasing our overall strength. In the near future, the relatively unchanged fleet will have to cope with the 200 mile Resources Zone. The continued development of northern
Australia will necessitate greater naval activity for protection of its valuable resources. The definition of the continental shelf boundaries with our neighbours may create tensions. Furthermore no consideration has been given to a threat prior to 1984/85. By then the projected fleet will be stretched to fulfil its increased domestic tasks quite apart from coping with additional problems.

The construction time for ships is four years. In time of threat this is a critical factor when the warning time may not be more than 10 months. During the next eight years we will build our Patrol Boats and the Assault Landing Ship. These projects will be a valuable opportunity to demonstrate the effectiveness of national participation in a significant manner, and should be a step towards a more independent attitude to our defence needs.

The manpower base requires expanding now for without that expansion we either reduce our commitments or become ineffective through being too thin on the ground. There is far too much at stake to have a Navy too small for the task it is going to have to do. Statistical tests indicate that it remains to be proved that Australia forms any special case in relation to the trend exhibited by the rest of the world.

NOTES
1 Perception and Warning Times (Table 1).
2 Probability of Reduced Warning (Figure 1).
5 Sir Arthur Tange, Address to the ACT Regional Group, Departmental Organisation and the Profession of Arms, 26 June 1975.
6 For instance, Japan by 1986 intends to increase her nuclear energy output to 10 per cent and by 2000 to 50 per cent of her total output which currently is only 0.4 per cent.
7 Molotov/Ribbentrop Talks, October 1940. Some observers state this as misleading but nevertheless a pattern is emerging.
9 A two-thirds majority in the UN General Assembly.

### TABLE 2

<table>
<thead>
<tr>
<th>Ser</th>
<th>Works Project</th>
<th>TP (mths)</th>
<th>TC (mths)</th>
<th>TPT (mths)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
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<tr>
<td>1</td>
<td>Cockburn Sound</td>
<td>20</td>
<td>98</td>
<td>118</td>
<td>1864-1873</td>
</tr>
<tr>
<td>2</td>
<td>Wildock</td>
<td></td>
<td></td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Fitzroy Dock</td>
<td></td>
<td></td>
<td>144</td>
<td>1846-1858</td>
</tr>
<tr>
<td>4</td>
<td>Sutherland Dock</td>
<td></td>
<td></td>
<td>120</td>
<td>1880-1890</td>
</tr>
<tr>
<td>5</td>
<td>Facility to make 66mm rockets</td>
<td></td>
<td></td>
<td>54</td>
<td>54+</td>
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### TABLE 3

<table>
<thead>
<tr>
<th>Ser</th>
<th>Equipment</th>
<th>TP (mths)</th>
<th>TC (mths)</th>
<th>TPT (mths)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>Action Information Organisation</td>
<td>50</td>
<td>67</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Tactical Trainer (AIOTT)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Seaking Simulator</td>
<td>31</td>
<td>43</td>
<td>74</td>
</tr>
<tr>
<td>3</td>
<td>Weapon System Trainer</td>
<td>19</td>
<td>24</td>
<td>43</td>
</tr>
<tr>
<td>4</td>
<td>Fleetwork Trainer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Submarine Command Team Trainer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Basic Radar Trainer</td>
<td>29</td>
<td>27</td>
<td>56</td>
</tr>
</tbody>
</table>
## TABLE 4

**PROJECTS ASSOCIATED WITH WORLD WAR II CARRIED OUT WITHIN AUSTRALIA**

<table>
<thead>
<tr>
<th>Ser</th>
<th>Works/Production Facility</th>
<th>Initiated</th>
<th>Service Acceptance/Completion</th>
<th>Total Project Time (mths)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>3.7&quot; A.A. weapon</td>
<td>June 37</td>
<td>June 40</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40mm Bofors</td>
<td>Oct. 40</td>
<td>May 43</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2 pdr. A.T.G.</td>
<td>June 40</td>
<td>Apr. 41</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6 pdr. A.T.G.</td>
<td>July 41</td>
<td>July 42</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2&quot; mortar</td>
<td>Feb. 42</td>
<td>Dec. 42</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3&quot; mortar</td>
<td>Sept. 40</td>
<td>Mar. 41</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>LT. ARMoured CAR</td>
<td>Dec. 41</td>
<td>Mar. 42</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>TANK ACI</td>
<td>June 40</td>
<td>Nov. 42</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>BREN GUN</td>
<td>Oct. 35</td>
<td>Jan. 41</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>TORPEDO</td>
<td>Dec. 41</td>
<td>July 44</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>WIRRAWAY</td>
<td>Oct. 36</td>
<td>July 39</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>BOOMERANG (WIRRAWAY INTERCEPTOR)</td>
<td>Feb. 42</td>
<td>Aug. 42</td>
<td>6</td>
<td>To prototype</td>
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<tr>
<td>13</td>
<td>BEAUFORT</td>
<td>July 39</td>
<td>Aug. 41</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>MOSQUITO</td>
<td>Jan. 42</td>
<td>July 43</td>
<td>18</td>
<td>Approx.</td>
</tr>
<tr>
<td>15</td>
<td>MUSTANG</td>
<td>Jan. 43</td>
<td>May 45</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>WHYALLA SHIPYARDS</td>
<td></td>
<td></td>
<td>24</td>
<td>Approx.</td>
</tr>
<tr>
<td>17</td>
<td>CAPTAIN COOK GRAVING DOCK</td>
<td>Early 39</td>
<td>Mar. 45</td>
<td>72</td>
<td>Approx.</td>
</tr>
<tr>
<td>18</td>
<td>BRISBANE GRAVING DOCK</td>
<td>Aug. 42</td>
<td>June 44</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>S/R WASP A/C ENGINE</td>
<td>Oct. 36</td>
<td>Feb. 39</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>T/R WASP A/C ENGINE</td>
<td>Sept. 40</td>
<td>Nov. 41</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>T/R WASP A/C ENGINE</td>
<td>Sept. 40</td>
<td>June 42</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>GIPSY MAJOR</td>
<td>Oct. 39</td>
<td>Sept. 40</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Machine shop 1 — Maribyrnong</td>
<td>Apr. 36</td>
<td>May 40+</td>
<td>50()</td>
<td>Approval in Dec. 37</td>
</tr>
<tr>
<td>24</td>
<td>Projectile shop 1 — Maribyrnong</td>
<td>Apr. 36</td>
<td>Oct. 40+</td>
<td>55()</td>
<td>Approval date</td>
</tr>
<tr>
<td>25</td>
<td>Machine shop 2 — Maribyrnong</td>
<td>Sept. 39*</td>
<td>Apr. 41+</td>
<td>20()</td>
<td>Approval date</td>
</tr>
<tr>
<td>26</td>
<td>Ordnance factories — Bendigo</td>
<td>May 41</td>
<td>May 43+</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Ordnance factories — Echuca</td>
<td>Jan. 43</td>
<td>June 44+</td>
<td>18</td>
<td></td>
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<tr>
<td>28</td>
<td>Small arms factories — Bathurst — Orange</td>
<td>Oct. 40</td>
<td>Nov. 41+</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Other ammunition/explosives factories</td>
<td>Apr. 41</td>
<td>Apr. 42+</td>
<td>13</td>
<td></td>
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INTRODUCTION

PRIVATE "Slim" Madden, GC was captured at the height of the Battle of Kap-yong in 1951, when every part of his unit the 3rd Battalion, The Royal Australian Regiment, was locked in battle with the Chinese in Korea. The effects of imprisonment eventually caused his death. The effect on other captured servicemen of the United Nations Forces produced disturbing results.

This was the first war in which servicemen captured by the enemy failed to escape successfully. It was the first war in which they were subjected to intensive interrogation and political indoctrination which successfully produced twenty-one men who decided to stay with the enemy rather than return home. Almost one in every three American prisoners in Korea was guilty of some sort of collaboration with the enemy. These ranged from writing anti-American propaganda to killing seriously ill fellow prisoners by throwing them out into the snow. This war had the highest prisoner death rate of any war involving Americans.

These facts bear serious consideration by our services today. In the two-and-half years they fought in Korea the Chinese used every device, from moral pressure to physical torture, to convert the prisoners they captured to the Communist viewpoint and to use them to further Communist aims. These tactics were not hastily devised; they were the result of a generation of experience in dealing with captured soldiers of the Kuomintang. Today we occasionally hear of the cruel conditions in Soviet labor camps: about prisoners being tortured by hunger and cold, about the denial of medical care to sick prisoners and about forced psychiatric treatment of perfectly sane people in mental hospitals. Soviet dissidents such as Alexander Solzhenitsyn and Dr Sakharov (both Nobel Prize Winners) have testified to this. South Vietnam is now undergoing intense indoctrination or re-education. After the North Vietnam Army entered Saigon on April 30, 1975, Father Andrew Gelinas, a Jesuit, stayed behind and has described the now familiar communist techniques taking place. The possibility of servicemen facing similar treatment or worse in the future as Prisoners of War (PWs) of Communist-led countries, is very real. For this reason, the experience of PWs in Korea and more importantly the example set by Private Madden should be clearly understood by servicemen today.

Captain D. T. Read
Royal Australian Infantry

"Slim was a real hero — and didn’t even know it. He became a sort of legend. He didn’t try to be like that — it was the way he was made. Nothing could make him co-operate with the enemy."

Private Roy Gwyther

Private Slim Madden, GC

Captain Read graduated from OCS Portsea in 1968 and was posted to 1st Battalion, The Pacific Islands Regiment as a platoon commander. He served in 8 RAR as a platoon commander in South Vietnam. Recently he served in 3 RAR as Adjutant and is currently an Instructor, Administration Wing, The Land Warfare Centre, Canungra. He graduated with a Bachelor of Arts from the University of Queensland in 1975.
PTE H. W. MADDEN, GC

Private Madden remained a prisoner of the Chinese until he died of malnutrition and beating in November 1951. He was posthumously awarded the highest decoration possible, the George Cross, for his actions as a prisoner of war. The George Cross was presented to his sister, Mrs Florence Regan, by the Governor of New South Wales, Sir John Northcott, on 9th May 1956.

The citation for Private Horace William Madden of the 3rd Battalion, The Royal Australian Regiment, reads as follows:

CITATION: Private Madden was captured by Chinese Communist Forces on 24th April 1951 near Kapyong. He was a signaller attached to Battalion Headquarters at the time and received concussion prior to capture.

Private Madden was held prisoner by the enemy until about 6th November 1951, when he died of malnutrition and the result of ill-treatment. During this period he openly resisted all enemy efforts to force him to collaborate, to such a degree that his name and example were widely known through the various groups of prisoners. Testimonials have been provided by officers and men from many units of the Commonwealth and Allied Forces which show that the heroism he displayed was quite outstanding.

Despite repeated beatings and many other forms of ill-treatment inflicted because of his defiance to his captors, Private Madden remained cheerful and optimistic. Although deprived of food because of his behaviour, resulting in severe malnutrition, he was known to share his meagre supplies, purchased from Koreans, with other prisoners who were sick.

It would have been apparent to Private Madden that to pursue this course must eventually result in his death. This did not deter him, and for over six months, although becoming progressively weaker, he remained undaunted in his resistance. He would in no way co-operate with the enemy.

This gallant soldier's outstanding heroism was an inspiration to all his fellow prisoners. (London Gazette: 30th December 1955).

Horace Madden was born at Cronulla, a beach suburb of Sydney, New South Wales, on 14th February 1924. When he enlisted in the Army on 3rd July 1942, he was living at Croydon, Sydney. In August 1943, he transferred to the AIF and served with the 3rd Australian Motor Ambulance Convoy Platoon in New Guinea and in Bougainville. He went to Japan after the war as a member of the British Commonwealth Occupation Force. He re-enlisted, after his discharge in Australia, in the Special Force which was being raised for service in Korea. He returned to Japan, and on 5th November, emplaned for Korea for service with the 3rd Battalion.

Private Madden was last seen at Pyongyang (see map) by three fellow prisoners from the 3rd Battalion on the march north to the camps on the Yalu. They stated that he was in a weakened condition and could not continue the march north. He was later beaten heavily about the chest with rifle butts by the Chinese and died in Camp 1. The Adjutant of the 1st Battalion, The Gloucestershire Regiment, Captain Anthony Farrar-Hockley, DSO, MC, who was present when Private Madden died, stated that, although this beating was a contributing factor to his death, he believed he died of malnutrition.

TREATMENT OF PWs

To understand the significance of his heroism, displayed by the open defiance of his captors, it is necessary to look at the conditions, deprivations and treatment suffered by Madden and other prisoners of war in Korea. The Geneva Conventions 1949 on the treatment of PWs states in general terms:

"Prisoners of war must at all times be humanely treated and must be protected against acts of violence, intimidation, insults and public curiosity. They are entitled in all circumstances to respect for their persons and their honour."

It is now well documented history that methods of interrogation and indoctrination, employed by the Chinese to prisoners of this war, produced distressing results among American soldiers. Eugene Kinkead, in his review of the American Army Study, Why They Collaborated, found this sort of thing — American troops collaborating in such large numbers, and apparently so casually — to be incredible.
The most distressing thing the study found was that the men need not have yielded, just as they need not have died in such great numbers.

When the Korean War ended, one British and twenty-one American soldiers chose life under the Communists. Eleven other Americans were retained against their will but were subsequently released. Of the 7,190 Americans captured, 2,730 died in captivity and 470 others have been recorded as missing. 192 Americans were found guilty of charges of misconduct whilst PWs. Most of the charges involved the exploitation of other men’s hunger. To the credit of the Americans, very little publicity has been given to many who resisted collaboration and particularly those who received decorations for actions whilst PWs.

The 229 captured Turks, who were singled out as a special target for indoctrination, were completely unaffected. Not a single one died in captivity. This is especially surprising in view of the fact that almost half of these men were wounded when they were captured. “Their rock like discipline stood them in good stead and when things got difficult they retreated behind their language barrier.”

In general, great credit must be given to Australian PWs for their conduct and sensible attitude towards their imprisonment. They did everything in their power to keep themselves fit and worked hard to improve hygiene and camp conditions generally.

**Interrogation**

As soon as the PWs were captured they were subjected to interrogation which was initially concerned only with tactical matters. However, when they were moved further north to the camps on the Yalu, the interrogation became less of a tactical nature and more political. A good account of the Chinese methods of interrogation is given by Philip Deane:

“There were about a dozen questions, each more unanswerable than the previous one. It wasn’t that one could not be ‘broken down’ by this fast flowing third degree, but that one simply did not know the answers. Yet the interrogator persevered, putting the same questions in different words, in a different order, faster and faster, through his three interpreters, interposing threats that he would use the pistol in his hand. One became obsessed with keeping track of one’s previous answers.

I fell asleep and, from my kneeling position, dropped on to my face. I awoke with a sharp pain in my left side. I had to kneel again. This went on from sunset until the black sky had turned to blue again in the east. The cocks were crowing. I remember wondering absently: if the cock-a-doodles were their answers to some interrogating fox.”

More often than not, the interrogator required the prisoner to put his statement in writing (their homelife and educational background), and a brief biography seldom proved sufficient. More and more detail was required, and when the slightest discrepancy was revealed, the prisoner was accused of lying. The PW learnt later that he had probably signed some form of confession. In this case, the information supplied the interrogators with useful leverage for more pressure.

**Indoctrination**

Indoctrination started to be used only after the Chinese entered the war in November 1950.
Some aspects of the officer-soldier relationship in the Australian Army amazed the Chinese interrogators. They failed to understand why the officers did not indoctrinate their men.

Indoctrination was an extremely complex process developed by the Chinese Communists on the mainland in the 1940s when their control of the situation with the Nationalists was in a state of flux. Their methods were first documented in the Wang Report. During the initial friendly period, the Chinese undertook to find out everything they could about the captives for use in the later indoctrination period. The prisoner was ordered to complete a detailed questionnaire on a sheet of paper with a false heading of the International Red Cross. After the first questionnaire others were issued, progressively more detailed. Later, the prisoners were asked to write autobiographies. These enabled the Chinese to pick out the most promising candidates for indoctrination.

The technique of indoctrination were wholly psychological and very rarely involved the use of physical force or physical torture. They involved repetition, harassment and humiliation. The Chinese knew that continued questioning and lecturing at odd hours, deprived the prisoners of what they wanted above everything else — to be left alone — to lead a normal prisoner’s life. The American Army study showed that most prisoners felt, if they complied with the enemy at the time, they would be left alone thereafter. But they learned, to their sorrow, that this never happened. Harassment continued and even increased.

An example of humiliation is described by Eugene Kinkead: “During indoctrination class one day, a prisoner pointed out that if, as the instructor had said, South Korea had started the war, and not North Korea, it was odd that by the end of the first day of combat the North Koreans had not only repelled the treacherous onslaught of the South Koreans all along the front, but were already knocking at the gates of Seoul, forty miles to the south. The instructor was furious. ‘You are a stupid, ignorant fool,’ he said, ‘everyone else in the class knows the South Koreans started the war. Why don’t you?’ But the prisoner was obstinate. He demanded an answer, whereupon the instructor ordered the entire class to stand, and remain on its feet until this one man abandoned his objection. After some hours of standing, the other prisoners began to murmur against the objector. Under this pressure the man capitulated. But the incident did not end there. The next day the prisoner had to compose and read to the class a long criticism of his own conduct, ending with an apology to the class and the instructor. On each of the following four or five days, he had to repeat his self-criticism. Then he, in turn, was made to criticise his classmates.”

In the prison camp, incidents like this led to chaos and favoured the establishment of an informer system. This lack of trust was debilitating. It is the duty of a soldier taken prisoner to escape. The informer system, together with the large concentration of Chinese troops, effectively thwarted all attempts at escape. One Australian soldier, who manufactured compasses while in camp 5, was told by the Chinese during an interrogation that they knew of his activities.

Escape

As stated earlier this was the first war in recent history where PWs failed to escape successfully. There were some very good reasons for this. Firstly for two-thirds of the year (October to May) exposure to the climate made it impossible to survive. Throughout Captain Farrar-Hockley’s account of his escape attempts he constantly refers to inadequate clothing as a stumbling block and in one case gave himself up so that he could return clothes belonging to a fellow escapee who had been recaptured minus his clothes after swimming a river. The adverse climate together with lack of food and water acted as a natural barrier to prolonged evasion of the enemy.

Secondly, the numerically superior enemy made escape in the first place and evasion thereafter extremely hazardous. Farrar-Hockley describes this dilemma in a march of PWs from the “caves” north to the Yalu River:

“Our escorts were all officers! Second Lieutenants carried burp guns, the Lieutenant in charge a pistol.” Squadron Leader Ron Guthrie who escaped with Farrar-Hockley from the 1st to the 7th November 1951 states that
the ratio of guards to prisoners in his camp (for officers) was about 4 to 1 respectively.

Apart from the climate and presence of the enemy the appearance of Europeans was completely against them. Height, colouring and not least of all their long noses — which children didn’t miss — meant that all travelling had to be done at night and hiding by day.

**Camp Life of PWs**

During the period 1950-51, conditions in the transit camps and established camps were bad. Food was very poor and there was a lack of medical necessities. However, in 1952-53, the conditions in the camps improved considerably, due mainly to the efforts of the PWs. While in the camps the PWs were not forced to labour for the Chinese. All work done by the men was for their own benefit, eg, carting and gathering wood for fires during winter, building sports fields, and in some cases, working in vegetable gardens to supplement PW rations.

Unfortunately not all PWs made the best of what they had. One of the principles of the so called ‘Lenient Policy’ which the Chinese People’s Volunteers instituted in their PW camps was equality of rank — no officers, no NCOs, everybody equal. Consequently, there was not one to bully and chivvy the wretched prisoners but the Chinese guards, and the result among American prisoners was that men dissolved into individuals governed only by their individual consciences. As fear, cold, sickness and starvation deepened, so also did conscience diminish.

Squadron Leader Ron Guthrie describes how Madden put others before himself. On one occasion, when they were being marched north from Pyongyang to the Chinese border, Madden traded his watch for apples and shared them with the group. He died shortly after they reached the prison camps in the border area. Farrar-Hockley states that in the house near the doctor’s quarters someone died almost every day; men whose skeleton bodies had been starved or maltreated beyond the point of response to their improved circumstances.

Other men failed to keep themselves healthy, to gather firewood to heat themselves or try to get food to supplement their rations. Dr Kim Pyong Gu, who visited Philip Dean’s PW camp constantly told him that he was losing two or three American soldiers every day from pneumonia, because he had no sulphapyridina, no blankets, no clothes and the PW barracks could not be heated until October 1st. He also complained that many of the deaths were due to the fact that some of the Americans did not seem anxious to live.

Medical attention given to PWs was poor by our standards. Treatment consisted of dressing wounds and changing dressings. Some surgery was carried out but not under hygienic conditions. Food, though of poor quality and sometimes low in quantity, appeared sufficient to keep the PW in a reasonably healthy state. The main diet was rice, millet and beans. Oriental soldiers were of course, inured to a rice diet but the average European cannot stomach such fare and many Americans died from just that.

**Mail**

As a further inducement to co-operation, the Chinese made great use of outgoing and incoming mails. Outgoing mail was, as far as the Chinese were concerned, no more than a vehicle for propaganda. The Chinese blamed the American bombings for the lack of mail, until it became known that the Chinese were destroying or neglecting to forward mail.

Prisoners who co-operated and were labelled as “progressives” received their mail, better food and medical attention. Those who did not co-operate, “reactionaries”, had these necessities withheld or restricted until they had seen the error of their ways.

Although the Chinese barred independent visitors and organisations, such as the International Red Cross, facilities were readily arranged for visits by Communists or Communist sympathisers. These visitors, such as the Australian, Mr Wilfred Burchett, and the Englishman, Mr Michael Shapiro, collected prisoners’ mail, chatted to suitable men, and gave lectures. The mail collected by one such visitor, a Mrs Felton, Chairman of the British National Assembly of Women, an international Communist ‘front’ organisation, was used by her to manipulate the relatives of PWs in England.
Physical Brutality

When all methods of inducement had failed — and in some cases before they had been tried — the Chinese had recourse to physical coercion and torture, revolting to the human mind and expressly forbidden by the Prisoners-of-War Convention. Torture and ill treatment were carried out quite cold-bloodedly, for the purpose of breaking a man's resistance.

According to one of the victims, the 'normal' treatment while in solitary confinement at camps was 'to be made to stand or sit at attention with legs outstretched and in complete silence for periods of up to 20 hours. For the remainder of the day the prisoners were allowed to sleep, but were continually roused by the guard 'to make sure they were still there'. Shoes and clothing, except for underclothes; were often taken away even in the middle of winter; washing facilities were often denied, sometimes for months at a time, while visits to the latrine would be permitted only once or twice a day, even when the prisoner had dysentery. At Camp 1, the Chinese built a number of boxes about 5 ft by 3 ft so that it was impossible to sit or stand. In one of these, one private of the Glosters spent just over six months.

Many of the guards of prisoners in solitary confinement were adept at brutality and seem to have been given full rein to stand prisoners to attention, spit on them, kick them, beat them, prod them with bayonets, wake them at odd times throughout the nights and humiliate them at will. Such treatment was not exceptional; it was the normal fate of the prisoner who steadfastly refused to co-operate or who was sufficiently important in Chinese eyes to merit intensive 'conditioning'.

THE EFFECTS OF IMPRISONMENT

Like any war, this one brought out the best and the worst in its prisoners. LTCOL John Dunn, of the American Army, consistently over-extended himself on the rearward marches to holding centres in the early days of the war by helping carry the ill and dying. Later, he constantly fought for an improvement in living conditions in the compounds, and on numerous occasions he risked punishment to intercede, forcefully and effectively, with enemy authorities for comrades in trouble. Captain Emil J. Kapnun, a Catholic Chaplain, had elected to be captured, rather than retreat, in order to stay with his regiment's wounded. He successfully fought indoctrination among the men, ministered to the sick and stole food from the enemy to supplement the diet of the weak. He literally killed himself, the records show, by his unstinting devotion to others.

The American Army study into the failure of so many of their soldiers to adapt to the harsh conditions, found that the answer lay in their lack of discipline. Even before capture, little details pointed to what was to happen in the prison camps. For example, water discipline, a primary necessity for soldiers in the summer, was shockingly remiss. Care of the feet, so critical to the infantryman, was often completely disregarded because none of the officers could, or would, enforce it. Dozens of hospital cases of frost bite, fungus, and infection, resulted from disregard of this one simple elementary rule. In Korea, sick prisoners lay down by the side of the road, thinking they would be picked up by a truck. This never happened and the men walked or died as prisoners.

CONCLUSION

Courage in captivity may well be the most critical factor for PWs in future conflicts with the Communist Block countries. The Korean experience shows that psychological warfare, propaganda warfare and political warfare are all accepted as part and parcel of the ideological conflicts which bedevil our existence as soldiers. Techniques have been developed to compel individuals to make false confessions. The denial of food and sleep proves to be highly effective and practical in the indoctrination process.

Although it seems wholly unrealistic to expect a man to endure a living hell when his breaking or even death is probably inevitable, the alternative of co-operation with the enemy goes against the whole basis of democracy in the West. The most powerful asset of the Western World is its love of truth. The need for physical and mental fitness is essential to face up to this fact.

The example of "Slim" Madden is one of true courage in the face of adversity — something which could not be tolerated in the eyes
of the enemy. His name and his example will live on for those men who experienced captivity in Korea and to those servicemen who must face captivity in the future.

NOTES

1 Alexander Solzhanitsyn has turned over all of his income from the publication of *The Gulag Archipelago* to a fund dedicated to helping the families of Political prisoners in the USSR.

2 The original of the citation and scroll honouring Private H. W. Madden, GC, are maintained by the RSL Sub-Branch, Morisset, NSW.

3 LTCOL Barker’s *Behind Barbed Wire* is probably the best available study of PW experiences and comes to the conclusion that there is no viable alternative to the “number, rank and name” formula for a PW.

4 Philip Deane went to Korea as war correspondent for the London Observer in July 1950. On his thirteenth day in Korea, he was captured and remained a prisoner of war for two years and nine months. His book *Captive in Korea* is one of the best personal narratives to come out of Korea.

5 An account of the Wang Report is given in Chapter VII of Eugene Kinkead’s *Why They Collaborated*. Information gleaned from Austrian and German PWs by the Russians in World War II about America was also passed on to the Chinese to aid in their techniques.

6 In his absorbing book, *The Edge of the Sword*, Captain Farrar-Hockley describes at least six major escape attempts.


8 The Soldiers’ Club of 3 RAR Kapyong Barracks, Woodside, S.A., is named the Madden Club in his memory.

BIBLIOGRAPHY


HISTORIC FLIGHT

Group Captain Keith Isaacs*
AFC, ARAeS, RAAF (Retd.)

On 24 June, 1924, the Prime Minister, Mr. S.M. Bruce, announced the first major rearmament programme for Australia since the end of the 1914-18 War. At the time, the Royal Australian Navy was regarded as the nation's first line of defence and most of the defence expenditure went to the purchase of new warships for strategic operations in the Pacific and Indian Oceans. Orders were placed for two long-range cruisers, HMASs Australia and Canberra, an aircraft carrier, HMAS Albatross, and two ocean going submarines, HMASs Otway and Oxley.

The Royal Australian Air Force — which had purchased only six locally built Avro 504K trainers since it was formed on March 31, 1921 — received barely enough money to acquire three non-combat aircraft. Although orders were placed in 1925 for nine aircraft, six of these machines (the Supermarine Seagull III amphibians, A9-1 to 6) were financed from the Navy vote to form a fleet co-operation flight. The object of the flight "was to gain knowledge of the geography and flying conditions of the islands in the Pacific adjacent to Australia ... for air defence purposes."

Disappointed at not being able to acquire long-range flying boats for strategic patrols, the Chief of the Air Staff, Group Captain R. Williams, decided to do the next best thing. He proposed making a survey flight of the British possessions in the Pacific, by flying some 27,300 kilometres (17,000 miles) to Samoa and return. The object of the flight was to gain knowledge of the geography and flying conditions of the islands in the Pacific adjacent to Australia ... for air defence purposes."

The route for this pioneering journey was through the islands of Papua New Guinea, Solomon, New Hebrides, New Caledonia, Fiji, and Samoa.

Long open sea distances, and lack of landing fields at the island destinations, dictated that a marine-type aircraft would be required for the flight. The CAS had three versions of maritime aircraft available for consideration — the Fairey IIID seaplane, the Supermarine Seagull III amphibian, and the de Havilland DH.50A which had been ordered with an interchangeable wheel and float undercarriage. The ageing IIIDs were past their prime as they had been in service since 1921, and the Seagulls were committed to their naval co-operation tasks. So it came about that the DH.50A, in seaplane configuration, was selected for the flight. Furthermore, the 240hp Siddeley Puma engine of the DH.50A — with its low compression — permitted the use of ordinary motor spirit, which was the only kind of fuel available at most of the intended refuelling locations.

The RAAF's DH.50A (c-n 134) was the tenth such aircraft built by the de Havilland Aircraft Company Ltd. at Stag Lane Aerodrome, Edgware, Middlesex. "The other day at Stag Lane I was shown the DH.50A which is being built for the Commonwealth Air Board," reported Aircraft's British correspondent, Major F. A. de V. Robertson, in April, 1926. "It looks very comfortable. The front seat in the cabin is removable, providing additional space for uniform cases, as well as an ordinary permanent luggage compartment. There are all the refinements, such as wireless, navigation lights, and parachutes. At least my guide seemed to think that there was a parachute for the pilot, doubtless with the object that if anything went really wrong he would be able to stand his court-martial ..."
After the DH.50A was flight tested as a landplane, it was delivered to the Short Brothers Ltd. works at Rochester. There it was fitted with specially built duralumin twin floats, and flight tested as a seaplane from the River Medway. The aircraft was officially accepted for the RAAF on May 4, 1926, by the Commonwealth Liaison Officer at the Air Ministry, Wing Commander S. J. Goble, and it was then shipped to Australia.

In August the DH.50A was assembled and tested as a landplane at RAAF Point Cook. At the same time the aircraft serial number, A8-1, was applied to the fuselage together with the legend, Royal Australian Air Force — in small letters under the serial number — for national identification at overseas ports of call while showing the flag.

During the same month Group Captain Williams received ministerial approval to use the aircraft as a seaplane for his forthcoming survey flight. The twin floats were fitted in September, and the CAS personally tested the seaplane on the 11th. It was then officially announced that Group Captain Richard Williams, DSO, OBE, would be in charge of the flight, with Flight Lieutenant Ivor McIntyre, CBE, AFC, as co-pilot, and Flight Sergeant Leslie Joseph Trist as engineer. Because of the infrequent reporting points along the isolated route, it was decided not to carry a wireless operator. Consequently, 54kg (120 lb) of wireless equipment was removed and replaced with extra spare parts.

It was originally planned to depart on Friday, September 24, but a rough sea off Point Cook
prevented the heavily laden seaplane from lifting off, and the departure was postponed for 24 hours. The second attempt was successful and the flight commenced at 0550 hours on the 25th. When the seaplane alighted at Paynesville, on the Gippsland Lakes in Victoria, to take on fuel, it was found that a small external leak had developed in the engine's water jacket. Nevertheless, the flight resumed at 1019 hours, and McIntyre landed in Rose Bay at 1540 hours, amidst the normal Saturday afternoon's conglomeration of pleasure craft on Sydney Harbour.

The seaplane was beached and, after an inspection of the leaking water jacket, it was decided to change the engine. The replacement Puma — one of those supplied with the 1920 Imperial Gift equipment — was obtained from Wing Commander L. J. Wackett's RAAF Experimental Section at Randwick. The engine change took three days, and the aircraft was ready to resume the flight on the 29th.

Departure time was set for 1000 hours, but McIntyre had to taxi the seaplane around for 35 minutes to stir up the smooth water surface to enable the aircraft to lift off. En route to Southport, Queensland, the aircraft refuelled at Port Stephens, and the flight then continued for four and a half hours against head-winds. Shortly before 1700 hours, when the fliers were within 9.7 kilometres (six miles) of Southport, the engine suddenly failed and McIntyre had to make an emergency landing in the open sea. It was found that a split-pin had been dislodged from the pilot's throttle control, and the fault was quickly remedied.

High seas, with waves of 3.3-3.6m (10-12ft) were running and it was impossible to take off again, so McIntyre set about taxiing some eight kilometres (five miles) to Southport. The failing light, and the spray from the breakers, prevented the crew from locating the entrance to Southport, and McIntyre had to skillfully taxi ashore through a high breaking surf. The firing of a Very light brought assistance from the local cinema which was screening a silent epic. A party of 50 men dragged the machine across the sand-dunes to a lagoon, where McIntyre taxied to a secure position in front of the Grand Hotel. Over seven hours had elapsed since the forced landing, and the exhausted crew collapsed into their beds during the early hours of the 30th.

An inspection carried out later in the morning revealed that the propeller had been badly damaged, and would have to be replaced. The only suitable propeller available was in the process of being built at the RAAF Experimental Section. Work on this propeller was hurriedly completed, and it arrived at Southport on October 4. It was fitted and tested immediately, and the seaplane was readied for departure on the following morning.
Meanwhile, the unfortunate incidents that had occurred to the seaplane since the fliers left Point Cook were being adversely reported in the newspapers. In fact, the Acting Minister for Defence, Mr C. W. C. Marr, was even called upon to cancel the flight. In the official report of the flight — subsequently compiled by the CAS — the Group Captain commented that “up to this time there had been a certain amount of Press criticism regarding the flight. When the leak developed in the water jacket in Sydney it was said that this was to have been expected, as the Puma engine, which was being used, usually developed internal trouble in the water jacket. The one developed on the flight was external. When the machine failed to get off after the forced landing at Southport, it was assumed, in the Press, that the reason was due to the limited performance of the machine. This was not so, for no seaplane could possibly have taken off from the sea running on that day.”

The DH.50A departed from Southport at 0620 hours, October 5, refuelled at Bingham three hours later, and arrived at Gladstone at 1320 hours. On the 6th the fliers completed the next stage to Bowen, after landing at Mackay for fuel. The DH.50A was met and escorted into Bowen by one of the Seagull III amphibians of No. 101 (Fleet Co-operation) Flight which was stationed in the area. The CAS remained at Bowen on the 7th, inspected the Flight, and flew out to the section of the Great Barrier Reef that was being photographed by the Seagull crews. On October 8 the fliers reached Cooktown after refuelling at Cardwell, and the next day they flew to Thursday Island via Flinders Island.

At this point the DH.50A was about to become the first locally based aircraft to fly out of Australia. Aircraft later commented that “after an exchange of telegrams with Defence Headquarters on the advisability of pushing ahead or returning to Melbourne, the
flight was resumed to Papua . . . just about this time a section of the Press was printing a lot of sheer nonsense about the difficulties encountered during the early stages of the flight. The then Minister for Defence was in England. His Acting Minister seems to have lent a credulous ear to those who wanted to have the flight stopped at Thursday Island, and for a while there was some real danger of their representations being acted upon . . . actually, the flight didn’t begin to grow interesting until after leaving Thursday Island, for most of the places called at in the Pacific had never previously been visited by aircraft.”

The fliers departed from Thursday Island on Monday, October 11, at 0817 hours and, after flying 209 kilometres (130 miles) across the Torres Strait, alighted at Daru Island, Papua. On the 12th they proceeded along the Fly River Delta, and across the top of the Gulf of Papua where the aircraft flew into its first tropical storm. After landing at Kiaruku, Yule Island, for fuel, the DH.50A eventually reached Port Moresby at 1720 hours. The following day’s flight took the party to London Mission Station at Fyffe Bay for fuel, and on to Samaria where the aircraft touched down at 1515 hours. Torrential rain held up the fliers for 24 hours at Samaria where they were guests of the Bishop of New Guinea.

The flight continued on the 15th to Morobe, via Baniara. While crossing Milne Bay the aircraft ran into a heavy tropical storm which caused the engine to lose power. McIntyre turned back to evade the downpour and, when the engine subsequently picked up, he flew around the storm area. Morobe was the first landing made in the Mandated Territory, and the party found a welcoming wire awaiting them from the Administrator at Rabaul.

“The next day was hot and muggy without a breath of wind,” Group Captain Williams recounted in his report. “The surface of the sea was like glass, and a ground swell was coming in from the ocean. We had planned to fly to Lindenhafen, but under these conditions it was impossible to get off with the necessary load to make it in one flight.”

On October 17, however, conditions were much better and the seaplane was flown across the Huon Gulf, via Fami Islands, direct to Cape Bulli on the south coast of New Britain, and reached Lindenhafen at 1500 hours. The following day the fliers reached Rabaul at 1622 hours after a 362 kilometres (225 miles) flight from Lindenhafen. Further telegrams were then exchanged with the Defence Department, culminating in authority being received to proceed beyond Rabaul — “Continuation of flight to Tulagi approved. Acting Minister...
desires impress no undue risks should be taken and feels flight should not proceed beyond Solomon Islands.”

While awaiting approval to continue the flight, an opportunity was taken to top-overhaul the engine. This work was completed on October 26, when a test flight was carried out. Unfortunately, the Custom’s launch drifted into the tail of the machine and severely damaged the rudder. It took two days to repair this damage. At daylight on the 29th, A8-1 was flight tested with the two-bladed propeller that had been used since leaving Southport. The DH.50A was then temporarily fitted with a four-bladed propeller originally designed for the Wackett Widgeon I amphibian. The Widgeon’s propeller had been positioned at Rabaul so that it could be tested in the warmer latitudes. “This propeller, however, caused considerable vibration and it was found to be out of truth,” reported Group Captain Williams. “It was not tested in the air.”

The normal propeller was refitted and the fliers departed from Rabaul at 1050 hours on the same morning. After flying across New Ireland and clearing the east coast, the aircraft ran into rainstorms before arriving at Nissan Island. An inspection at Nissan revealed that an internal leak had developed in the water jacket of No. 2 cylinder. Temporary adjustments were made and the flight continued on October 30 to Kieta.

An attempt was made the following morning to fly to Gizo, but a landing had to be made at Shortland Island because of heavy rain and bad weather along the rest of the route. The weather, in fact, deteriorated so much that the aircraft was grounded for the following two days during which time it was found that the engine sump had cracked. Nevertheless,
a successful take off was achieved on November 3, and the fliers arrived at Gizo at 1020 hours.

A second take off for Maravo Lagoon had to be abandoned when the engine missed and vibrated badly under full power. The seaplane was beached, and it was found that No 6 cylinder had also developed a leak in the water jacket. Again, temporary adjustments were made — Nos 2 and 6 cylinders were freed of water through the plug holes, the engine was warmed up, and clean plugs were then inserted in the faulty cylinders just before take off — and the fliers reached Maravo Lagoon, and stayed overnight at Betuna. Departing next morning the party flew 241 kilometres (150 miles) to Tulagi and alighted at 1320 hours, November 5. The seaplane was beached immediately at the Burns Philips island, Makambo.

As Tulagi had now been made the terminal point of the survey, a new engine was requested from Sydney. The only Puma available was the engine that had developed the leaking water jacket on the flight from Point Cook to Sydney, and had since been repaired at the Experimental Section. It was shipped aboard ss *Mataram* from Sydney on November 12, and arrived at Tulagi on the 21st. The engine was immediately installed, and A8-1 was flight tested on the afternoon of the 23rd.

The return flight to Point Cook commenced on November 24 when 1,242 kilometres (772 miles) were covered in 7 hours 55 minutes with landings at Gizo, Kieta, Soraken, and Rabaul where the seaplane alighted just before dark. The next morning the fliers departed at 0650 hours, but impenetrable storms caused them to return to Rabaul after 30 minutes flying. A second departure was made at 1330 hours, and Lindenhafen was reached at 1710 hours after a refuelling stop at Palma — “a plantation in Jacquinot Bay managed by an Australian who had little communication with the outside world, and who inquired as to the winner of the Melbourne Cup and the result of the last Test match.”

The following morning bad weather delayed the take off until 1253 hours, and the fliers arrived at Arawe at 1400 hours. Continuous heavy rain then kept the aircraft grounded until 0900 hours the next morning. After leaving Arawe the crew flew to Finschhafen, Sala-maua, and arrived at Buna Bay after travelling 470 kilometres (292 miles) in four hours flying time. On November 28, 515 kilometres (320 miles) were covered between Buna and Samarai, with a refuelling stop at Bania. The following day’s flight was curtailed by local rainstorms and ended at Port Moresby after refuelling at Abau. Rain again hampered progress on the 30th, and the fliers could only travel to Kerema, some 228 kilometres (142 miles) from Port Moresby.

The weather was still bad on December 1 when the fliers took off, at 0812 hours, for Daru. About 90 minutes out from Kerema the aircraft encountered a storm of such magnitude that McIntyre was forced to turn back and he alighted on the Gama River. The crew tied the seaplane to the river’s bank, and took shelter in a native hut with five of the local inhabitants. Efforts to speak to the natives in Pidgin English were unsuccessful and, after the rain had cleared, McIntyre took off again and reached Daru at 1500 hours. The Resident Magistrate was most interested in the behavior of the natives at Gama River, because they had not seen a white man for two and a half years. On that occasion two village constables were appointed — but, when they arrived in their respective villages, they were promptly disposed of by the local inhabitants!

The next day’s flight of 853 kilometres (530 miles) brought the party back to Australia when, after refuelling at Thursday and Flinders Islands, the aircraft alighted at Cooktown. On the 3rd the seaplane flew to Cardwell, Bowen, Mackay and Port Alma, completing 1,143 kilometres (710 miles) in 9 hours 15 minutes. The following day’s run comprised 595 kilometres (370 miles) from Port Alma to Southport, via Gladstone and the Mary River.

On Sunday, December 5, the aircraft made good time from Southport to Port Stephens where McIntyre alighted to refuel. The CAS’s original intention was to fly to Sydney but, with such fine weather and favorable winds, he decided to bypass the harbour and proceed to Eden. Unbeknown to Group Captain Williams, a reception had been arranged at Sydney and a formation of RAAF aircraft flew out to escort the CAS into Rose Bay. When the seaplane failed to appear, fears for the safety of the crew began to grow until a sighting report of the seaplane was received from Jervis Bay.
Bad weather kept the fliers at Eden on the 6th — the first and only day on which a flight was not made since leaving the Solomon Islands. The next morning McIntyre took off from Eden on the final stage of the survey flight. After refuelling at Paynesville, Melbourne was sighted just before 1500 hours. Two Fairey IIIID seaplanes had been launched to escort the DH.50A into its home base, but they failed to make contact. Three SE.5A fighters, and nine Avro 504K trainers, then took off and accompanied the CAS’s aircraft to Point Cook, where the seaplane alighted at 1512 hours, at the end of its epic journey.

The Pacific islands survey flight of 16,000 kilometres (10,000 miles) occurred between September 25 and December 7, 1926, and 126 hours 4 minutes were flown on 31 flying days. Of the 23 areas visited in Papua, the Mandated Territory of New Guinea, and the British Solomon Islands Protectorate, 20 of the districts had never seen an aircraft. The remaining three were visited by a Vought UO-1 floatplane from an American battleship which called at the islands on the return voyage from Australia after the visit of the United States Fleet in 1925.

At the conclusion of Group Captain Williams’ history making flight, the Prime Minister, Mr Bruce — then in London — cabled “Congratulations on splendid achievement in your flight of ten thousand miles. You have demonstrated the wonderful possibilities of aviation, not only in linking Australia more closely with outlying portions of the Empire in Pacific, but also in defence of Australia and adjoining possessions.”

In retrospect, the flight would have been even more successful but for the disfortunes encountered with the seaplane’s temperamental Puma engine. The fast return flight of 8,121 kilometres (5,046 miles) in 13 flying days demonstrated what could be achieved when the engine functioned normally — and, of course, the original intention of surveying 27,300 kilometres (17,000 miles) to Samoa would have been accomplished but for the engine malfunctions.

In recognition of the fliers pioneering and surveying achievements, Group Captain Williams was awarded a CBE, Flight Lieutenant McIntyre a Bar to his AFC, and Flight Sergeant Trist an AFM, in the 1927 Birthday Honours. McIntyre also received the Oswald Watt Gold
Plaque for 1926 (“for achieving the most brilliant performance in the air during the year in the Commonwealth of Australia...”), having previously been awarded the same medal in 1924 for the RAAF Fairey IIIID seaplane flight around Australia. In his History of Australian Aviation, Melbourne, the Hawthorn Press, 1960, Stanley Brogden relates that “the flight... was hailed at the time in England as another triumph for British aircraft.”

Of more importance than the honours and tributes, however, was the official report of the flight compiled in 1927 by the CAS. This comprehensive defence assessment was submitted to the Minister for Defence on May 31. The report formed the basis for strategic air planning in the Pacific islands adjacent to Australia until the advent of the 1939-45 War; when, of course, the PNG-New Ireland-Solomons theatre of war became an Achilles’ heel in the Japanese plan to conquer the Pacific. There is no doubt that of all the flights made by Air Marshal Sir Richard Williams, KBE, CB, DSO, the most significant was his 1926 strategic survey.

Fit Lt I. E. McIntyre alighting at Rose Bay, Sydney Harbour, in A8-1 on September 25, 1926. The Puma engine was changed before the seaplane departed on the 29th.

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Award: Issue No. 7 (November/December 1977)

The Board of Management has awarded the prize of $30 for the best original article in the November/December 1977 issue (No. 7) of the Defence Force Journal to Flight Lieutenant P. J. Bennett, RAAF for his article Air Power of the PLA.
RULES OF WAR

Major M. I. Carr
Royal Australian Infantry

Synopsis

This paper outlines the development of the rules of war through their various sources and mentions the streams of codification. It discusses the principles of the rules of war, outlines the type of rules which have developed from the principles and discusses the various methods of their implementation. The paper comments generally on the change in legal status of war, the effects which has had upon the rules of war and mentions the most recent attempts at updating the rules of war. The paper is lay, historical and descriptive, leaving the harder task of analysis to legal experts. I have considered it unwise to speculate upon recent developments until conventions have been ratified and accepted.

Introduction

The earliest records of man, myth and legend are replete with the glory and horror of human conflict. As men coalesced into groups, tribes, societies and nations so conflict developed from simpler levels of combat to organized war. Whatever its cause, war is generally distinguished from lesser conflicts by its higher level of intensity, more deliberate organization, greater sense of purpose and increased levels of destruction. As man and society developed so the destruction caused by wars increased and the ability to wage war developed commensurately with the invention of more sophisticated weapons. However, aligned with such developments a feeling grew that there was much to be gained from observing restraints generally based upon reason and the desire for human survival. These restraints evolved into a body of principles termed the rules or laws of war.

Background

The laws of war are the rules of nations in respect of warfare and can be traced back to practices which arose during the latter portion of the middle ages. The conduct of warfare had been mitigated slightly by the development of medieval laws of chivalry and by the influence of Christianity, under which church fathers developed a set of guidelines for the conduct of a "Just War." The gradual development and use of such practices led to their acceptance as customs and usages of warfare; as a consequence their infringement was deemed a crime, with offenders capable of being punished as war criminals. The gradual development of the rules of war coincided with the development of the nation state and the evolving concept of international law: resort to war came to be considered the equal right of all states and the proper instrument by which relations were continued. Ultimately the right to wage war became recognised as a principal test of sovereignty. (This right must be separated from the concept of a just war, where war is seen as a duty to right wrongs, and can be defined as the political right of a sovereign state.) The period climaxed with the development and practice of Clausewitz's dictum that "war is nothing but a continuation of political intercourse with an admixture of other means." War had, at this stage, developed into a legal undertaking with its customs and practices a part of the rules of the law of nations.
The traumatic experience of World War I led some national leaders to the idealistic concept that war could be prevented by the removal of its legal status; that it should not remain the rightful, lawful and unhindered prerogative of the nation state. Consequently by 1920 one of the major principles of nineteenth century sovereignty, namely the right to wage war, was greatly restricted. The League of Nations established the principle of collective responsibility of its members to limit the right to make war to cases where the council could not report unanimously on a dispute or the assembly could not reach a majority decision. However, owing to the defective organization of the League, and certain other factors, war still remained a practical possibility and, as a consequence, problems arose in determining when hostilities without a declaration of war amounted to war in a technical sense. Previously the distinction between the laws of war and the right of war was clear, but with the concept of the illegality of war there arose the question that perhaps actions undertaken during the war, whilst conforming to the stated rules of war, were, because of the illegality of war, criminal acts. This dichotomy was overcome by the understanding that because of the humanitarian nature of many of the rules of war they should be observed regardless of the illegal nature of the war, and this is affirmed and recognized in international law. As long ago as the seventeenth century, Grotius wrote that the justice or injustice of war is irrelevant for the purpose of observing the rules of warfare; but it was not until the twentieth century that the concept was questioned in legal terms.

The rules of legal effect, which were termed the laws of war, had, by 1625, been described to such an extent that Hugo Grotius was able to collate the works of his predecessors and form them into a coherent relationship. His work was published under the title De Jure Belli ac Pacis and contains much of what is now accepted as the modern law of warfare. As long ago as the seventeenth century, Grotius wrote that the justice or injustice of war is irrelevant for the purpose of observing the rules of warfare; but it was not until the twentieth century that the concept was questioned in legal terms.

The American Civil War marked the beginning of attempts to codify the laws of war when in 1863 Francis Lieber prepared a draft code of the laws of war on land. Since that time the codification of international laws of war has taken place in two main streams: The Hague law and the Geneva law. The former law lays down the “rights and duties of belligerents in conducting (military) operations and limits the methods of warfare”, while the latter is designed to “ensure respect, protection...
and humane treatment of war casualties and non combatants." There have been varying interpretations placed on the treaties and conventions of The Hague and Geneva regarding the binding quality and the implications they have for non signatories. Even though non signatory nations are not bound by the exact wording of the treaties and conventions it has been decided, as the 1949 Geneva convention expressly provides, that they are "bound by the customary laws of war from which the treaties are derived." Even so, The Hague laws are out of date, causing numerous ambiguities such as the effect of the disassociation of humanitarian laws on one hand with the law of war on the other, where The Hague law has "been overtaken by military technology and has remained in a state of neglect often called chaotic." This aspect of unforeseen circumstance is covered, however, by the famous Martens clause which states, inter alia, "in cases not included in the regulations . . . the inhabitants and the belligerants remain under the protection and rule of the principles of the law of nations." Generally speaking the codification of the rules of the law of war is a living process and depends largely upon the degree of mutual confidence that exists within the international community. It is obvious that the basic customs and usages of the laws of war will provide the basis for any further codification and exist as a convenient backstop for current rules.

Principles of the Rules of War

The lawfulness of the weapons and methods of destruction used by belligerents are not only laid down in specific rules of custom and convention but are also found in a much more general manner in the principles of the rules of warfare. There is some difference of opinion as to nomenclature and number, but four major principles deserve mention. These are humanity, chivalry, proportionality and military necessity.

The principle of humanity forbids the employment of all such kinds and degrees of violence as are not necessary for the purpose of war, that is "for the partial or complete submission of the enemy with the least possible expenditure of time, life and physical resources." If war is seen as an extension of political purpose any unnecessary suffering caused is irrelevant to the purpose. The rules of humanity, designed to prevent or inhibit unnecessary suffering, do not create formal rules or legal obligations but they may, however, have certain effects upon interpretation in conventions and for international law. Experience has shown that needless cruelty, especially violence offered to non combatants, inflicts deeper wounds than defeat upon the field of battle. Consequently many of the treaties and conventions on war rule out the use of specific weapons and ban certain actions against the enemy, prisoners of war and civilians. In the Declaration of St. Petersburg (1868) the contracting powers fixed the technical limits at which "... the necessities of war ought to yield to the requirements of humanity" and renounced the use in war of certain explosive projectiles. The contracting parties initially engaged to renounce, in the case of war amongst themselves, the use of any projectile of less weight than four hundred grammes which was explosive or charged with fulminating or inflammable substances. The sentiments expressed in the Declaration of St. Petersburg inspired subsequent declarations and conventions concerning the banning of methods likely to cause unnecessary suffering such as expanding bullets and asphyxiating gases. However as instruments of war have become more deadly, methods of destruction, some of which could conceivably be subject to humanitarian control by convention, have managed to outstrip the existing rules of war. This has led to an argument being put forward that perhaps a sharp and decisive war, even though inhumane methods might be employed, would be, in the long run, more humane than a prolonged conflict in that it may bring a return to peace with the least amount of general suffering. It is not intended to argue the merits and demerits of such a concept here; it is, however, designed to point out that although general rules of humanity do exist the actual conventions regarding humanitarian rules of war are out of date.

The principle of chivalry has been defined in the British Manual of Military Law as that "which demands a certain amount of fairness in offence and defence and a certain mutual respect between opposing forces", while the U.S. law of naval warfare "forbids the resort to dishonorable (treacherous) means, expedi-
Chivalry as a concept can be traced back to the period of the barbarian invasion of Europe after the collapse of the Roman Empire when the ideal of the Christian warrior arose. It was the warrior’s duty to defend weak and helpless Christians from pagan aggressors. Chivalry grew from the essential principles contained in joining military and Christian undertakings. This ultimately developed to become a collective term embracing a code of conduct, manners, etiquette, a system of ethics and a distinctive philosophy of life.

Chivalry was initially restricted in form to the ruling classes who were supposed to possess the ideal qualities and it tended to serve their mutual interests by establishing the idea of equality amongst them. As international society and the laws of war developed the most generative effect of chivalry with regard to the rules of war has been in representing a conceptual barrier to ultimate savagery. The restraint implied in the concept of chivalry has enabled rules to be developed and applied to warfare which supposedly have given war a civilized aspect.

Certain acts in violation of the concept of chivalry have come to be outlawed in positive law and the 1925 Geneva Protocol, in the general opinion of the civilized world, condemned and prohibited the use in war of asphyxiating, poisonous or other gases because they represented a dishonourable means of warfare. Other rules of war can be traced back to the concept of chivalry as it has had an effect upon interpretation in the conventions. Chivalry is not, as the other principles are not, an individual creator of formal rules and obligations, in effectiveness lies within its application to humanitarian principles in conjunction with the other principles of the laws of war.

The concept of military necessity has been argued as the exact antithesis of the humanitarian laws of war in that it implies that any act or measure which influences the course of a war in favour of one of the belligerents may be justified on that account alone. It is easy to see how such an idea could have developed when the Australian Edition of the Manual of Military Law (1941) defines the principle of military necessity as that in which a “belligerent is justified in applying any amount and any kind of force which is necessary for the purpose of war”. In the past the principle of military necessity has been justified in many disguises but mainly to sanctify the actions of military commanders and to relieve a commander of responsibility for what would otherwise be a criminal act. To this end military necessity instead of being seen as a principle of the law of warfare has been seen as a method of subverting that law. It has consequently been deemed necessary on occasion to specify in conventions actions and limits regarding particular aspects of war: in article 23(g) of The Hague convention of 18 October 1907 it is especially forbidden to “destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war.” That rule has subsequently been reinforced by article 53 of the 1949 Geneva convention and article 24 of the 1923 Hague Rules of Air Warfare in which only military necessity can justify the destruction of enemy property not specifically protected by some definitive law of war.

There are two major theories of military necessity. The first theory was developed in Germany under the pretext of the ‘argument of war’ (kriegsraison) and purports to grant a commander discretionary powers to decide which acts may be committed under the plea of military necessity. Consequently the demands of the military situation would take precedence over the customs and laws of war. Before World War I many Germans maintained that the laws of war lost their binding force in cases of extreme necessity. Such a case was said to arise, for example, when violation of the laws of war alone offered either a means of escape from extreme danger or the realization of the purpose of war — namely the overpowering of the opponent. This was not generally accepted and the doctrine has subsequently been rejected in international law because to accept it would place the entire body of law under the aegis of military convenience. The sanction of military necessity had originally found recognition during those times when war was not regulated by rules but by usages. With the development of the rules of warfare military necessity became an essential consideration in the determination of
those rules. The preamble to The Hague Convention IV expressly stated that the rules of warfare were framed with regard to military necessity and thus the use of military necessity as a plea in mitigation of war crimes can be considered invalid as it has already been considered in the drafting of the relevant rules.35

A second theory of military necessity was set out by Francis Lieber during the American Civil War as Instructions for the Government of Armies of the United States in the Field in which he stated that “military necessity ... consists in the necessity of those measures which are indispensable for securing the end of war, and which are lawful according to the modern law and usages of war.” Lieber’s notions have become popular and have found their way into conventions leading to the concept that military necessity cannot justify all and every kind of action but is subject to the sanction of the international rules of the laws of war; thus leading directly to the primary purpose of the rules of war — the effective observance of those general principles and imposed restrictions which are the rules of war.

The final principle of the rules of war has been determined as proportionality. As a principle of the rules of war this implies that acts of war must be based upon a balanced relation of the employed means and the military end and is most often conceived of in terms of military response and consideration of the methods to be employed.37 Proportionality is much less of a distinct measure which can be analysed separately and in its simplest statement the principle is dependent upon the previous three to such an extent that its application is meaningless without them. Much the same can be said of all the principles in that their content within the rules of war reveal an organic moral unity.38 The principles of the rules of war provide the boundary within which the laws of warfare are developed, and yet provide the moral substance of much of those laws. Thus if chivalry and humanity combine to form the basis of civilization then the rules of war can be seen as a proportional compromise between civilization and military necessity. The compromise is expressed in particular types of rules supporting reciprocal action or establishing a proportion of rights and duties. Without a sense of proportionality the reason for a military response can claim no higher motivation than barbarism, for the methods used to achieve the desired end would owe no allegiance to the rules of war.

Types of Rules of War

It is the purpose of the laws of war to determine the permissible arenas within which belligerents may exercise physical pressure against one another. If belligerents employ unlimited force against one another it depends upon the relative size of the contestants and the potency of their means of destruction as to whether or not armed conflict between them would seriously damage the bases and values of a civilization. To that extent there is the risk of a chain reaction of negative reciprocity, of a decline of civilization into barbarism.39 As a consequence it is the function of the rules of war to assist in ensuring the continuation of civilized life by encouraging the operation of the principle of reciprocity.40 Thus it is to the benefit of states to limit the play of power on a basis of reciprocity and so the laws of war owe their existence to considerations which tend to impose restraints upon the actions of belligerents.41 The limitations on the sovereignty of belligerent states imposed by the rules of war may restrict the attainment of the strategic objective on a time and space continuum as the imposed restrictions affect not only the end but also the means of achieving that end. This concept has been applied in the rules of war to the degree that the military end and the military means have been proportionally compromised with the requirements of civilization such that military necessity can no longer mitigate in the case of crimes covered by conventions. Thus the limited principle of reciprocity should ensure effective obedience to the laws of war. However it cannot account for the freedom of action of sovereign states, a freedom which has required certain methods of implementation to be developed, outside the concept of reciprocity, of the laws of war.

Schwarzenberger has outlined four types of rules of warfare which are the result of mixture of the degree of effect of civilization and military necessity. The first type of rule prohibits acts which contravene the standard of civilization but which serve no military purpose whatsoever. The second type subordinates possible tactical advantage to the demands of civiliza-
tion. The third attempts to equalize the requirements of civilization and military necessity. The last type of rule is one which has been virtually emasculated to the necessities of war and retains only a purely admonitory function. These four types of rules of war cover these actions considered as war crimes, crimes against humanity and conspiracy in the conduct of either. In its restricted or conventional sense the term war crime has been used to denote violations of the laws or customs of warfare; that is, the term refers to acts committed in the conduct of a war already in being without reference to the origin and nature of that war. There is however a major offence which is the result of twentieth century developments and which could, if it were obeyed, negate the need for the other rules. It is that rule of international law which makes the waging of aggressive war a crime against peace, and to initiate such a war is seen as the supreme international crime. It can be seen as a return to the just war doctrine.

Methods of Implementation

One of the most controversial aspects of the rules of war, irrespective of type, is the method by which some or all of them are implemented. There have been several methods evolved for such implementation, either during or after a conflict, none of which appear entirely satisfactory. Jurists are well aware of the problem and realize the seriousness of the deficiencies. They are also aware that unless the situation is remedied the laws of war may be dissipated or brought into disrepute and neglect. The basic methods of implementation rest in three systems with a fourth which shows most promise for future prevention of war crimes. The three extant systems are termed the protecting power system, the resort to reprisals as a mechanism of law and the resort to penal procedures, none of which present an entirely credible and viable method of implementation of law enforcement.

The four Geneva Conventions are based in part on the existence of neutral powers which in time of war assume the mantle of protecting powers. Each convention provides that it “shall be applied with the co-operation and under the scrutiny of the Protecting Power whose duty it is to safeguard the interests of the parties to the conflict.” By this the neutral powers which assume the mantle of protecting powers are the main instruments for the effective operation of the conventions and thus conversely the Geneva Conventions are virtually inoperative without the active role and participation of the protecting power system.

The protecting power system rests on a tripartite consensual basis in which one of the belligerent nations must ask another state for its services as a protecting power. The state must agree to so act and the opposing belligerent must agree to allow it to do so. Consequently this is an area in which the assertion of state sovereignty can exclude the protecting power system as for example in the Sino-Indian conflict of 1962-1963 when the Chinese Peoples Republic used the fact that diplomatic relations were intact as grounds for rejecting resort to the protecting power system.

The tasks of the protecting power are outlined in the various conventions but Article 11 of the 1949 Geneva Convention (IV) lays down that the protecting powers shall lend their good offices, whenever they deem it desirable, in the interests of the protected persons. This also includes interpretation of the conventions whenever there is disagreement between the belligerents as to their application, which may mean operating ahead of illegalities by exposure and persuasion. Given, however, the possibility of the assertion of state sovereignty in matters of international humanitarian law, Draper believes that a body or agency needs to be formed to supervise the regular observance of the Geneva Conventions as without such a presence the facts cannot be ascertained and the law cannot be applied and international opinion cannot be brought to bear on those who violate the laws of war.

As international law and the rules of war dictate that war is not a condition of anarchy and thereby request compliance by belligerents with the rules of war, warfare may be deemed legitimate. One of the methods by which legitimate warfare is secured, at least to a certain extent, is by a self help method called reprisals. As a method of law enforcement today reprisals retain only a vestigial authority as they are in effect a warning to the enemy, in the form of a threat of like retaliation, to desist from illegal acts and to comply with the
Reprisals, if carried out, are, what would otherwise be, illegitimate acts of war and are justified only by the fact of their being reprisals designed to force compliance with the laws of war. They are, in effect, the oldest and most primitive mechanism for the application of the laws of war and subsequently the law on reprisals is generally of a customary nature. The 1949 Geneva Convention, however, contains certain important provisions concerning reprisals. The doctrine of reprisals is somewhat obscure but there are certain strict codes which seem to apply and have usually been honoured. They are:

- no resort to reprisal without previous enemy illegality;
- no such resort if the adversary desists before reprisals are implemented; (otherwise it would be revenge)
- notice of intention to resort to reprisals with sufficient time to allow the adversary to return to legality;
- proportionality;
- the requirement of government sanction;
- immediate cessation of reprisal action as soon as the enemy desists from the illegality in question.

The right to exercise reprisal action carries with it the great danger of arbitrariness and often the act of reprisal has been in excess of what was required. This occurred because commanders found difficulty in distinguishing between retaliation and reprisal with a consequent descent into limited negative reciprocity in which usually the innocent and non-combatants suffered.

There have been attempts to restrict the methods of reprisal and the rules of a humanitarian character found in the Geneva Conventions of 1949 prohibited the use of reprisals against the classes of war victims expressly protected in the four conventions; that is, prohibiting altogether reprisals against prisoners of war. The movement restricting the use of reprisals, of which the 1949 conventions are an example, is designed to try and obtain by convention express prohibition of reprisals against civilian non-combatants. This can be seen as an attempt in a nuclear age to obtain legal sanction to prevent counter value strikes by belligerents and thus prevent the degeneration of war through reprisal action to barbarism. The last major legal consideration concerning reprisals is their general inability to take account of any individual responsibility for illegal actions. Consequently the effect may be limited as innocents may suffer as a result of reprisal action.

Penal processes, like reprisals, are ex post facto devices whereby the law is applied after it has been violated. The Geneva Conventions establish the system of universality of jurisdiction where every party to the Geneva Conventions has the right to bring to trial, convict and execute anyone who commits or orders a grave breach of the conventions. Traditionally the courts which have exercised jurisdiction in war crimes cases have been military in formation; however, crimes may be tried by courts of competent jurisdiction, designated by the belligerents, which are other than military courts. In international law each sovereign power stands in the position of guardian of that law and has the legal right to try war crimes even though the crimes have been committed against other nations. The inadequacy of purely national tribunals set up for the punishment of war crimes as well as the objections to international courts set up by victor nations has, however, raised the issue of the desirability of an impartial international organ constituted in advance of hostilities for the trial, after the cessation of hostilities, of persons accused of war crimes. Such an organ could also encompass the system of protecting powers as an a priori function. It cannot be said that at the present time penal processes are an effective mechanism for ensuring the application of the laws of war as in an international system in which war can be seen as a manifestation of the sovereign state there is no guarantee that the laws may not be taken by the victor nations and used for purposes of retribution. Even judicial processes may be subject to various political pressures, to such an extent that certain individuals may be prosecuted as scapegoats in order to satisfy public demand.

There is the further aspect of implementation which may produce better results and have greater benefits on an individual humanitarian level than the previous three. It is the educative and instructive effect of the codified
laws of war. The development of codified laws has already been touched upon but a further aspect should be mentioned: this is the issue of Manuals of Military Law which have had an important effect in that they not only helped to define and systematize the law but they served as guides for the majority who wanted to act within the bounds of the law. The rules were not codified solely for potential law breakers, they have a valuable place in securing the application of humanitarian law by the educative process. The Geneva Convention of 1949 and The Hague Protection of Cultural Property Convention of 1954 have incorporated invaluable provisions obliging parties to the conventions to give instruction to armed forces and civilians. Much more could be done; for example, by making rules of war part of the qualification for promotion within the military law exams of a nation's military forces, as the knowledge of what is illegal is a powerful bastion against violation of the law. Equally, so should the civilian population be educated as civilians can and have been tried as war criminals, especially in situations involving guerrilla warfare. Education in law before violation occurs may well be an area which will serve to lessen the occurrence of war crimes and in which the application of humanitarian law may be made a reality.

The Legal Status of War

One of the major factors in modern war has been its change in legal status from the era when war was considered to be the legitimate right of a sovereign state to the twentieth century where war has been removed from the position of a legal right and crimes against peace have been re-instituted as criminal acts under the rules of war. The occasion for the transformation was the aftermath of World War I and the specific conventions overturning the classical concept were the Covenant of the League of Nations, the Kellog-Briand Pact (1928) and, latterly, the Charter of the United Nations.

The Covenant of the League of Nations was very specific in proscribing aggressive war between its members but the proscription did not apply to non-members. Article 16 of the covenant did, however, impose some sanctions in that aid from members of the league could go to non-members who were fighting a legitimate war of self defence. The problem of deciding whether or not the recipient of aid was fighting a legitimate war of self defence was, however, left up to the individual nation with obvious results. Perhaps the most decisive development came with the Kellog-Briand Pact or the “Treaty Providing for the Renunciation of War as an Instrument of National Policy” in which the contracting parties condemned recourse to war for the solution of international controversies and agreed to the solution of problems by pacific means. By renouncing war as an instrument of national policy signatories supposedly renounced war as a legal instrument of self help and as an act of national sovereignty for the purpose of changing existing rights. However this in no way meant that the resort to war was unlawful and war remained legal in the following cases:

- As a means of self defence
- As a collective action for the enforcement of international obligation by virtue of existing instruments
- Between signatories and non-signatories
- Against a signatory who broke the pact.

Resort to war ceased to be a discretionary prerogative right of signatories of the Pact and it became an act for which justification would have to be sought in one of the above exemptions.

A latter addition to the rules of war is the Charter of the United Nations which goes beyond the Pact in that it prohibits recourse not only to war but also to force generally and to threats of war and physical force. Further, in the charter, article 51 states that nothing should prevent the right of legitimate self defence either collectively or individually and this concept has been seen as a return to the idea of the "just war", as only the resort to illegal war is considered a criminal offence under the charter.

Conclusion

In conclusion the comment must be passed that despite the attempts which have been made to maintain a civilized veneer over the international system through the rules and laws of war hostilities are still being under-
taken which, although not bearing a formal declaration of war, are, for all intents and purposes, that very condition. Nations have ignored the provisions of the United Nations Charter, as shown by recent conflicts, during which no side has declared war, because to declare war would be in violation of the charter. The most common method of justification for such conflicts elicits the ‘just war’ concept by claiming self defence or assistance in self defence. One pertinent result of this has been the move by some states to refer to international humanitarian law as being applicable in all armed conflicts.

The system is further complicated by the paradox of nuclear weapons for, arguably, they could not be used except in violation of the laws of war and so their possession, aside from probably purposes of deterrence, can be considered illegal and a standing menace to peace.\(^7\) The conflicts which have occurred in recent years have triggered certain attempts to modernize the laws of war. However, owing to the fluidity of the international situation since the 1960s, with specific regard to modernizing the various conventions, technological advances in weaponry and medicine and the widening of the international spectrum, this essay is unable to comment upon recent conferences and national arguments from those conferences. It is perhaps sufficient to mention that they are being held, which is a hopeful sign. The ultimate test will, of course, be the willingness of nations to make the political sacrifices necessary for a complete modernization, and subsequent ratification, of the conventions.

Of most importance is the educative factor; the way in which the changes are incorporated into the various national manuals of military law and hence into the national and military legal systems. Given that the concept of the laws of war is balanced upon the self image of the sovereign states and how they view their rights in the international system, the subsequent reliance upon individual understanding of the laws and the individual moral sense would appear to dictate that nations, in the best humanitarian tradition, conduct educational programmes to ensure that, at least, the military are aware of their duties and limits. In this light the following is perhaps relevant: “All soldiers shall be given tuition in international law . . . The soldiers must be instructed concerning their civic rights and duties under international law in peace and war.”\(^7\)

### NOTES
9. Greenspan, op. cit., pp. 4-5. The problem that man made laws could be out of as well as in accord with the laws of nature must be noted.
13. Ibid.
16. Ibid., p. 63.
18. Ibid., p. 3; and Greenspan, op. cit., p. 315.
21. Ibid.
22. Fenwick, op. cit., p. 656.
23. *Manual of Military Law*; Australian edition, Commonwealth Government Printer, Canberra, 1941, p. 194. This definition has not been changed in the most recent rewrite of the M.M.L. (See also FN 30.)
26. And who were free to treat the lesser classes in a quite unchivalrous fashion.
27. Greenspan, op. cit., p. 316.
31 Moffit, op. cit., p. 5.
32 Friedman, op. cit., p. 318.
33 Greenspan, op. cit., p. 279.
34 Oppenheim, op. cit., pp. 231-232.
36 Moffit, op. cit., p. 6.
37 Ibid., p. 5.
38 Ibid., p. 7.
40 Ibid.
41 Ibid., p. 14.
42 Ibid., pp. 197-199.
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The officers of HMAS Sydney in 1914 (Courtesy AB S. Given)
The Story of H.M.A.S. Sydney and the Emden

Colonel R. S. Lawson, MS, FRCS, FRACS
Royal Australian Army Medical Corps (Retd)*

The battle between H.M.A.S. Sydney and the German raider Emden was the first ship-to-ship engagement in the history of the Royal Australian Navy. I doubt if one person in ten under the age of 30 in this country would have any knowledge of it whatever. This seems to be in sad contrast with American practice where every schoolchild is brought up on the heroic events of the Revolution, the 1812 War, and the Gettysburg address, which they all know by heart.

But we, in our casual Australian fashion, (though we know a little about 1066 and all that; and Trafalgar, and Waterloo) never seem to get past Burke and Wills, or Charles Sturt sailing down the Murray, in our own rather meagre Australian history. Almost anything about the A.I.F. in World War I (except for the words Gallipoli and Anzac) is a complete void. Even Gallipoli is only vaguely understood by most of the population, that is, its geography, its significance in the strategy of World War I and the actual story of the events there between 25 April 1915 and the evacuation in December.

I am just old enough to remember the beginning of World War I. News Bulletins were posted outside Webber's Hotel, which we read walking home from school in the country town where I lived as a child. I can recall a few of the highlights still:

This article was submitted by Colonel Lawson shortly before his death in July and is printed with kind permission of his widow, Mrs Marjory Lawson.

4 August 1914.
Britain declares war on Germany.

9 November 1914.
H.M.A.S. Sydney sinks the Emden.

25 April 1915.
The Gallipoli landing.

31 May 1916.
The Battle of Jutland.

June 1916.
Lord Kitchener drowned. That seemed an appalling tragedy at the time. My mother was most upset as I remember.

All this came back to me when I had a patient at the Heidelberg Repatriation Hospital in 1964, named Williamson. He was nearly 70, and he required an operation for hernia or some such condition. According to my custom, I enquired briefly about his war service. I was delighted to learn that he had been in H.M.A.S. Sydney (with the rank of Boy, Second Class) when she fought the Emden. As it so happened, the time was almost precisely the 50th anniversary of this famous encounter and I questioned him eagerly.

Next day, Sunday, I tried a quiz session on my own family and found that they had but the vaguest ideas about the Sydney and the Emden. On Monday before starting the operation (the patient being under the anaesthetic), I quizzed the theatre staff, the theatre sister, the young assistant doctor, the anaesthetist and the orderlies. They were all entirely ignorant.

So I followed up this line of enquiry until ultimately I encountered a young man at a Scotch College Speech Night, who had just received a prize for Dux in Australian History (Matriculation). He was leaving the hall with his proud father (a leading Q.C.) and of course
I congratulated him. Then I said, “Son, what do you know about the battle between the Sydney and the Emden?” “Oh”, he said, “that is not in our syllabus”.

More recently, I tried this quiz on the Assistant Librarian at the Brownless Medical Library of the Melbourne University — a B.A. I asked her what she knew about the Sydney and the Emden, and she (being always candid and truthful) said “never heard of it”. So I asked her kindly “What school were you at?” She said “Macrob”, i.e. The MacRobertson Girls High School — a very fine school. I even tried the Assistant Librarian of the A.M.A. Library who went to Clyde and she was equally at a loss. So the state of ignorance is not peculiar to any class of school but appears to be general.

The German raider, Emden, (Captain von Mueller) which was stationed at the German Naval Base on the North China coast at Tsingtao escaped into the Yellow Sea just before the war began in 1914, avoiding a large Russian warship Askold which would have made difficulties. She was of 3,500 tons, with 4.1” guns, travelling at full speed at 24 3/4 knots. In the next three months from August to November 1914, the Emden sank or captured 23 merchantmen — mostly British (though the first prize was a Russian mailboat) — on the trade routes in the Dutch East Indies and between Calcutta and Colombo, and between Colombo and the route to Aden. Emden also bombarded Madras, setting the oil tanks ablaze, and made a lighting raid on Penang Harbour sinking a Russian warship and a French destroyer, escaping unharmed. As the Australian Naval Historian says, “She is a ship that any navy would have been proud of”. She had completely disorganized the trade route in the Bay of Bengal. Over a dozen allied warships were engaged in hunting for her. She filled all travellers across the Indian Ocean with the greatest apprehension. By November, 1914, morale in the Emden was very high. She had a most experienced and competent crew. One of her senior officers was a nephew of the Kaiser, Prince Franz Josef von Hohenzollern. She had in company a captured British collier, the Buresk, under a prize crew.

Von Mueller next decided to raid the wireless station in the Cocos Islands, estimating that no British ship was closer than 250 miles. A raiding party of about 50 German sailors (under Lieut. von Mucke) landed on Direction Island on 9 November 1914. The wireless station was destroyed (cables and radio) and all British civilians were rounded up, but not before they were able to send out signals:

“S.O.S. Strange ship approaching in entrance” — and then the electrifying message,

“S.O.S. Emden here”.

Emden stood off shore awaiting the return of the raiding party in three of the ship’s boats at 9 o’clock in the morning. They had little idea of what the day would hold.

We must now turn back to 1 November 1914, when the first convoy of Australian and New Zealand troops left their homelands from Albany, St. George’s Sound, W.A. for ports abroad as yet unknown. They were joined by other ships from Fremantle with troops from Western Australia. There were 38 transports of men and horses, all converted merchantmen without armour, carrying three Australian Brigades and one from New Zealand — ‘The greatest effort of sea transportation of troops to a distant seat of war that the world has ever seen’. The havoc that a raider could have inflicted on this convoy defies imagination. The escort comprised the British heavy cruiser Minotaur, the Australian light cruisers Melbourne and Sydney and the Japanese cruiser Ibuski. To this day, I am not clear how Japan came to be in the war so early and what she did in the next four years to earn the rich rewards of all those islands in the Pacific which cost so much time and trouble and so many brave American soldiers to recapture them about 25 years later.

Minotaur, after a few days, was called off to other duties and the flagship was then H.M.A.S. Melbourne, Sydney on the port side and Ibuski to starboard, all cruising at low speed to hold the convoy together. They were only about 50 miles east of the Cocos Islands when the first signals from the wireless station were intercepted. H.M.A.S. Melbourne at once increased speed and turned sharply to the west. Then her skipper, Captain Silver, remembered that his first responsibility was for the safety of the convoy. And so with commendable restraint (afterwards recognized by the Admiralty) he resumed station guarding the convoy.
and dispatched *Sydney* to the exciting task ahead. With difficulty Captain Silver also restrained *Ibuki* (which was larger than either of them) from joining in and she stayed on guard as well — these two vessels being the sole escorts for 38 ships with many thousands of troops on board. *Sydney* also had about one knot advantage in speed over *Melbourne*, (although they were sister ships) having recently had her bottom scraped. A retired British Naval Officer told me that we had Prime Minister Hughes to thank for keeping our Japanese allies at a distance, and in their right place.

H.M.A.S. *Sydney* was larger, slightly faster and more heavily gunned than the *Emden*. On the other hand she had a completely untried crew, while *Emden* by this time was a hardened veteran.

Although we are proud to recall that it was His Majesty’s Australian Ship *Sydney*, less than half the crew were actually Australians. Captain Glossop was an R.N. Officer as were most of the others. However Surgeon-Lieutenant Leonard Darby was an Australian and he still survives, now living in Melbourne, aged 88 years. Some years ago I had from him a letter from which I will quote extracts.

He wrote (23 June 1971): “Dear Lawson, In reply to your letter: 9th November, 1914, is a long time ago but of course this unexpected naval battle *Sydney* v *Emden* was a remarkable experience for a young medical graduate born 3 January 1889 — recently qualified in Melbourne (January 1912) who joined the R.A.N. on 12 September 1912 — having been a Resident Medical Officer at the Fairfield Infectious Diseases Hospital during the intervening nine months.

“In December, 1912, I joined H.M.S. *Drake* in Sydney bound for Portsmouth to join the famous Haslar Naval Hospital at Gosport — a short ferry trip across Portsmouth Harbour. About Easter 1913 along with young Australian naval ratings I was posted to the new 5,400 ton cruiser being completed on the River Clyde in Scotland.

“In June 1913, *Sydney* was commissioned at Portsmouth. R.N. Officers on loan held all senior positions. Senior R.N. Petty Officers were the backbone of our young and inexperienced crew. They were in action about 16 months later with *Emden* at Cocos Islands. At the age of 23 years I was the first and youngest to join the R.A.N. as Surgeon. My medical staff consisted of one R.N. Sick Berth Petty Officer, and two others — a total of three. For emergency assistance we had to train cooks, stewards etc. not needed by the Commander or the Gunnery Officer. *Sydney* left the Clyde, joined H.M.A.S. *Australia* at Bantry Bay, Ireland and then sailed home via Cape Town and Cape York, receiving a great welcome as she came into Sydney Harbour in October 1913.

At Hobart, in early 1914, H.M.A.S. *Sydney* held her first and only battle practice before the *Emden* fight including shooting at targets for her 6 inch guns only at 6,000 yards.”

To return to the action: When *Emden* sighted smoke on the horizon she at first supposed it was the collier *Buresk*, but was soon disillusioned. She recalled her landing party, but at 9.15 a.m. found there was no time to wait for them. Captain von Mueller ordered full steam
in all boilers and the ship cleared for action against the rapid approach of H.M.A.S. Sydney. Von Mueller at first took her for H.M.S. Newcastle, a vessel of about his own size and he determined to fight.

On H.M.A.S. Sydney, orders were given “Early breakfast. Prepare for action”. Surgeon Darby set up two medical stations in the stokers’ bathrooms on the lower deck. Sydney approached *Emden* at 25 knots preparing to engage at 9,500 yards, but was shattered when *Emden* fired the first salvo with her 4.1” guns at 10,500 yards. The German guns had an elevation of 30°, something hitherto undiscovered by Admiralty intelligence; while Sydney’s larger guns were set lower on the deck and could elevate only to 18°. The fourth salvo from *Emden* hit Sydney, killing four and wounding about a dozen. This hit damaged the range-finding and automatic gun-firing equipment so that her guns had to be operated manually from that point on. Altogether 15 shells hit the Sydney but of these, luckily only five burst. This was about 9.30 a.m. Sydney turned slightly away in order to maintain the fight at her own range and both ships travelled north on parallel courses. She was slow to get started but her third salvo produced two hits. The German ship knowing her only chance of victory was to inflict damage quickly did her utmost in rapid firing and is said to have fired a salvo every six seconds, having three salvos in the air at once.

However, Sydney kept out of range and was not hit again despite *Emden*’s every effort. Taking advantage of her superior speed her shells found the range and relentlessly smashed the wireless installation, the steering gear, the range finders, the forward funnel and the foremast. Sydney then closed and fired a torpedo which missed. *Emden* never managed to fire a torpedo despite desperate manoeuvring to close the range. As *Emden*’s third funnel went by the board, von Mueller finding himself approaching North Keeling island drove straight on to the reef, while Sydney supposing she was going south of this island swung round to meet her on the other side. However when Captain Glossop saw *Emden* rammed on the reef, he left her safe aground and went off to catch *Buresk* which had been hovering in the wings. It was now about 11.15 a.m. All Sydney knew at this stage was that at least one other German ship was in the offing — it might have been *Buresk* or the other German raider *Koenigsberg* for all Captain Glossop knew. In fact, *Koenigsberg* was skulking down the East African coast thousands of miles away, and only *Buresk* required rounding up after all. This caused little difficulty except that the German prize crew scuttled the ship and took to the boats. Sydney could only take the boats with the German soldiers in tow, and return to see how *Emden* was faring.

He reached North Keeling Island about 4 p.m. and found that *Emden*’s flag, the black Imperial flag of Germany, was still flying.

“Will you surrender?” he signalled.
Reply in Morse: “What signal, no code book”.
Whereupon in plain Morse, Glossop repeated,
“Do you surrender?” — No answer.
“Have you received my signal?” No answer.

Von Mueller remained silent. German officers who had been captured in *Buresk* told Glossop their Captain would never surrender. Although all guns on *Emden* had been destroyed she still had her torpedoes, and as far as Glossop knew, might still be able to discharge one.

His duty was unmistakable. He fired two salvos. Almost immediately a figure was seen clambering up the mast; the German flag came down and a white sheet was flown. This defiant gesture on von Mueller’s part cost another twenty German lives and led to a totally unjustified complaint of unchivalrous behaviour on the part of Glossop.

Even now, Sydney was not free to give attention to the wounded sailors on the stricken *Emden*. The German landing party still on Direction Island, 15 miles away, had to be dealt with. In fact this party of about 50 under von Mucke made a miraculous escape on an old schooner, the *Ayesha*, which with incredible audacity reached Padang in the Dutch Indies, transferred to a German merchantman and two months later reached the Red Sea coast, and so to Constantinople and the Fatherland, where von Mucke told all about the action. He even reported that “shortly before sunset, 9 November Sydney and Emden were in sight and both firing”, — whereas all firing had ceased
before 11.30 a.m. that day. His great adventure was slightly soiled by such obvious mendacity.

The next day, recognizing that von Mucke had indeed escaped, Sydney returned once more to Emden and was at last free to attend to the German wounded. They had on board Surgeon Leonard Darby and his assistant Surgeon Todd and they had also picked up a British civilian doctor, Dr. Ollerhead from Direction Island. With great care and expedition the wounded were lifted from Emden and brought across for attention. Then the survivors of the ship’s complement were moved across, the last to leave Emden being von Mueller himself who was brought over in Captain Glossop’s gig. One of the German doctors had been drowned or killed trying to swim ashore from the reef.

and the other, Dr. Luther was almost distraught with the task thrust upon him. He had on board 130 killed, about 60 wounded, and only 120 of the crew unwounded. However, all four doctors set to, and the wounded had all been dealt with by the time Sydney reached Colombo. By this time, all 38 ships of the convoy were riding at anchor in the harbour at Colombo, and the troops lined up ready to cheer Sydney as she came in. But Glossop signalled that there would be no demonstration which would have distressed and mortified the German wounded on Sydney’s decks. Thus Sydney of her own choice entered the harbour in silence.

Unfortunately the libel of the unchivalrous behaviour of H.M.A.S. Sydney is still repeated — in two forms:

- Shooting at a helpless foe;
- Delay in taking the wounded off the stricken Emden;

in a volume by Edwin Hoyt of Vermont, U.S.A. (1965) and in even more outrageous form by a Canadian, Fred McClement (1968). This is all the more reason why the full story should be told.

Surgeon Darby’s account is worth recording, as recently given to me. This is the action as he described it:

“Monday, 9th November: between 8 and 9 a.m. we heard a loud noise of gunfire. Stretcher brought down the assistant gunnery officer and some of his party from the after gunnery station which was out of action from a shell which dropped on them from 10,000 yards. Dr. Todd attended to these in his after aid post and they were placed in a Wardroom which became our hospital until we arrived in Colombo the following Sunday. Soon after this, I received casualties from the gun’s crews, including the trainer of our rangefinder on the bridge whose leg was severed above the knee by an Emden 4.1” shell.

“After a time, we closed the range and our superior guns played havoc (with Emden), mast and funnels a mess, upper deck burning. After two hours fighting, during which we travelled over 60 miles zig-zagging at 25 knots Emden was driven ashore to stop her sinking but still flying her flag.”

Surgeon Darby then describes the pursuit of the collier Buresk and the return to the Emden after 4 p.m.

“After repeated signals to Captain von Mueller to haul down his flag, which he ignored, we fired on her and soon the flag was down. It was not known by us whether Emden had a stern torpedo tube, which still might be used.
The flag incident was unfortunate but their Captain's refusal through pride to surrender to a partially trained new Australian cruiser caused unnecessary deaths to members of his crew. We heard few complaints from Emden's prisoners about our conduct; but I suspect an arrogant young German, Prince von Hohenzollern, who actually tried to take over an officer's cabin near his hammock—in later life, probably complained.”

There was further delay owing to the search for the party on Direction Island and the yacht Ayshra in which they escaped.

The letter continues: “Next morning Tuesday, 10th November, we started rescue of Emden's crew and wounded personnel. This transhipping was an exceedingly difficult and painful undertaking and the transfer of about 70 wounded took about five hours”.

Then the surgical team worked continuously from 6.00 p.m. on Tuesday to 4.30 p.m. on Wednesday. Surgeon Darby recalls one incident: “I was amputating the leg of a German sailor. The ship's cook, a rather nervous elderly man, found himself with a human leg in his arms. The cook asked what to do with it to which (as they told him afterwards) he responded, “Chuck it overboard through the bloody port-hole”.

When Dr. Luther had sufficiently recovered, he was able to render assistance by giving anaesthetics, and Dr. Olferhead returned ashore when the ship left the Cocos Islands for Colombo.

Surgeon Darby was awarded 2½ years promotion for his efforts in this first naval action in the R.A.N. During World War II he was awarded the C.B.E., and made Honorary Surgeon to King George VI. It seems clear that the charges of neglect of the wounded have no proper foundation, and the delay in succouring the German wounded was equally blameless.

If further vindication of Glossop's action in shelling the stricken Emden when she refused to surrender were needed, it can be found in the History of the 2nd H.M.A.S. Sydney in World War II. After a year of brilliant exploits in the Mediterranean during 1940 including the sinking of the Italian cruiser Bartelomeo Colleoni, under Captain Collins in 1941, H.M.A.S. Sydney (Captain Burnett), fell the victim of a cunning raider, the Kormoran, in November, because her Captain was too trusting—and not tough enough. The loss of the second H.M.A.S. Sydney without a single survivor was not only tragic but humiliating, a strange turn of fortune from triumph to disaster. Even in the sober prose of the Official History it is hurtful to read about.

In a fanciful way, I felt it had to be the Sydney that beat the Emden (and not the Melbourne). Though I am a proud and loyal citizen of Melbourne, one must acknowledge that they have greater boldness and imagination over there and more of the gambling spirit if you like. Only Sydney could have been so brilliant (Sydney I), and then so reckless (Sydney II).

Finally, it is of interest to record the reaction to the victory of Sydney over Emden when the news was received in Australia. It seemed that Federal Cabinet was meeting in Melbourne when the news came through. Quite spontaneously, every Cabinet Minister immediately stood in his place and three cheers were given. It is believed to be the only time the Federal Cabinet has behaved in this way before or since.

A cousin of mine (now an old lady) told me she was at Clyde School when the news came through. You may know that girls at this school do not ordinarily express their feelings with great exuberance. However, on this occasion, she tells me, the whole class immediately stood and cheered just as Federal Cabinet had done. I mention these reactions because it was the greatest news received in this country since the relief of Mafeking, in each case terrible anxiety giving way to elation and jubilation. It is in curious contrast to McClement's statement that "Australia actually declared a von Mueller day" in honor of the captain of the Emden.

Doesn’t it seem a pity that the present generation have no idea what it was all about?

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A Nuclear Defence For Australia?
Some Thoughts on a Role for Nuclear Weapons

Major Paul Mench
Royal Australian Infantry

Introduction

E. M. FORSTER is said to have observed: "Nuclear Weapons are not in my line; unfortunately I appear to be in theirs". If for no other reason than this the issues of nuclear strategy do not deserve the neglect that is accorded them in most discussions of Australia's national security. This article examines the strategic objectives that might in theory be secured by an Australian nuclear force.

A central and compelling paradox of Australia's national security is that logical and persuasive arguments can be made for opposite propositions: that Australia is among the most secure of States, or that it is among the least secure. In advancing the proposition that Australia is 'safe' one might argue that at present no potential adversary possesses or is likely to acquire the military power needed to carry out the difficult military task of invading Australia; and that because of our relatively remote geo-strategic position Australia is in future unlikely to become involved in conflict between other powers. On the other hand one is also able to argue that Australia is a resource-rich, underpopulated and militarily weak state that could offer a tempting target for aggression; Australia is situated within a region likely to be dominated in the future by two large powers, China and Japan, culturally alien to us and over which we can expect to have little influence; and thirdly through our alliance with the United States we are inextricably linked to the uncertainties and risks of both nuclear and conventional military conflict that are a characteristic of the super-power balance. As Professor Richardson has written, to posit these sorts of threats is not a prediction that they will materialise (although to some it seems to be just that), but rather a recognition that they may.

It is a further paradox of Australian defence that in the absence of an obvious, definable threat — such as the one that exists for the NATO states — debate about Australian defence, in one sense, is conducted in an environment of greater strategic uncertainty than is the case for many other nations.

In logical terms, three basic policy responses may be made to meet Australia's uncertain, perhaps potentially threatening, environment: to rely mainly on an alliance with a great power; to rely on diplomacy backed by only limited military forces; or to pursue a policy of military self-reliance. The last option might extend from attempting to provide self-reliance only against possible regional threats to attempts to deal with all contingencies, in that Australia might be able to deter a super-power aggressor by increasing the costs of aggression to the point at which the perceived benefits were no longer attractive.

Since the Second World War Australia has sought to maintain national security through reliance on the United States — a relationship formalised in 1951 with the ANZUS Treaty. Successive Australian Governments and public opinion have believed that the benefits of this alliance outweigh its disadvantages. That is, at the cost of some loss of political independence and a slightly increased risk of involve-

Major Mench is at present in UK at the Royal Military College of Science.
ment in great power conflict, Australia’s security has, on balance, been enhanced through the protection afforded by America’s political influence and military power — both nuclear and conventional.

There is now, however, a tendency to question long-standing Australian notions of the ultimate dependability of the ANZUS Treaty. Although such doubts must always have existed in the minds of at least some, it has probably been the collapse of United States power in Indochina and suggestions that the United States might be entering a phase of neo-isolationism that has led more recently to a reassessment. The lack of guarantees in the ANZUS Treaty, the fundamental uncertainty of American responses, and the possibilities of divergent perspectives and interests between the United States and Australia are mentioned. Partly because of these factors there now seems to be broad agreement that Australia should seek greater self-reliance in matters of national security. One could argue that the ultimate cachet of a self-reliant Australian defence policy might be the possession of a strategic nuclear deterrent force.

In 1975 a Canberra study group published two papers that examined the possible acquisition of nuclear weapons by Australia. Both papers concluded independently that with one possible exception it would not be in Australia’s strategic interests to acquire a nuclear capability. The exception was the case in which a regional power acquired nuclear weapons. In the meantime, the papers argued, Australia should try to maintain a level of nuclear technology so that the lead time involved in producing weapons would not be greater than that of regional states. I agree with those conclusions.

This article does not argue a case for nuclear weapons. In discussing a role for them I should not be understood as advocating their development by Australia, indeed I would be opposed to their development in the present circumstances on moral as well as strategic grounds. Nor do I attempt a thorough analysis of the more likely and foreseeable trends in the international environment which may bear on Australia’s strategic posture. I merely suggest some possible trends. The paper is mainly a discussion of the acquisition of nuclear weapons from the perspective of ‘strategy in the abstract’. I have treated only briefly the consequences for Australian diplomacy if Australia were to become a nuclear power and the question of the strategic responses that such a decision might generate among others.

**Nuclear pros — but mainly cons**

Many arguments may be deployed against Australia equipping itself with nuclear weapons. Most are usually embedded in an assessment of present and foreseeable circumstances. It is argued that ‘going nuclear’ would not be feasible because of domestic political opposition to nuclear weapons. The potential level of opposition to nuclear weapons is clearly demonstrated by the extent of the broadly-based anti-nuclear power lobby. Australian nuclear weapons would attract criticism from the international community and the great powers. Their acquisition might well jeopardise our relations with the United States, which seeks to halt the spread of nuclear weapons. Indeed, Richardson has argued that it might convert ANZUS into a dead letter, even if the treaty were not actually terminated. A nuclear-armed Australia could disturb the strategic balance between the super-powers and generate a response by them. An Australian nuclear force might reduce the inhibitions of other states and encourage proliferation among states in our region, thereby weakening rather than improving our strategic position. During the development of a nuclear force Australia might face an enhanced risk in a crisis of a disarming first strike by a hostile super power; and even when operational, if the nuclear force were technologically primitive, it might still be vulnerable to a first strike by a major power. Such a force might increase somewhat the prospect of nuclear blackmail and hostage scenarios; Australia might be attacked by a nuclear power as a form of demonstration against the United States — our great power sponsor. As a nuclear and predominantly white power Australia might be seen to constitute a more appropriate target for this type of ‘hostage’ scenario. In general it is argued by opponents of nuclear armaments that nuclear muscle is not susceptible to being readily converted into diplomatic influence. The weapons would be a liability so far as the achievement of...
broaden Australian foreign policy objectives were concerned — partly because of the international back-lash that Australia would be likely to experience through acquiring them.

Nonetheless it seems to be widely conceded that many of these disadvantages might be outweighed by a defensive imperative if a state in our immediate strategic region were to gain even a primitive nuclear capability. Australia might then need to provide herself with a countervailing capability, even if only to preserve her national self-confidence. The Australian public is unlikely to react dispassionately to a new nuclear state on its doorstep. This argument would be given added force if Australia were no longer to see the United States nuclear umbrella as water-proof.

What circumstances up to the end of this century might lead Australia to seek nuclear weapons?

Nuclear proliferation

Without nuclear weapons Australia might increasingly become the ‘odd man out’. It is a deterministic error to assert that nuclear weapons must inevitably spread. There are already examples of technologically feasible weapons — for instance, chemical and biological weapons — not being widely adopted or used in conflict. And there are powerful interests at stake—not least the survival of mankind—in halting the spread of nuclear weapons. But it may be argued that in spite of the great powers’ entrenched interest in controlling proliferation and the existence of the Non Proliferation Treaty, there is a growing potential for the spread of nuclear weapons as nuclear power generation, nuclear material and technology spreads. The exploitation of peaceful nuclear explosions (PNE) provides, as the Indian example shows, an ambiguous cloak for developing weapons. It is now argued that most semi-industrial nations have the basic technological capability to make reasonably efficient first-generation fission weapons and could do so if weapons-grade material were available to them. The challenge is even less if the purpose is only to demonstrate nuclear capability and no premium is placed on the effectiveness of the delivery system. Indeed there has been discussion of the threat of use, or misuse, of nuclear weapons through their delivery by non-military means such as by civil aircraft or merchant shipping. There are estimated already to be 14 nuclear threshold states. In our area of interest they include India, Indonesia, Iran, Japan, Pakistan, South Africa, South Korea and Taiwan. At the present time the threshold States possess within their inventories a total of some 13 types of nuclear-capable aircraft. (Of the 'threshold' states, only Indonesia is without a nuclear-capable combat aircraft.) Technological developments that are on the horizon, including the cruise missile and remotely piloted vehicles (RPV), as well as the spread of advanced weapons systems technology through military aid and sales, seem likely to enhance the capability of nuclear threshold states to deliver nuclear weapons.

India may already have enough plutonium for about eight small, primitive weapons and if her leaders wish it she could have a strategic nuclear force within a decade. According to one analyst, Japan is technologically capable (leaving aside the massive political and social inhibitions) of producing a bomb within 18 months and she could possess a small submarine-launched ballistic missile force by the mid to late 1980s. At the other end of the scale, however, it might take Indonesia one to two decades to develop an indigenous nuclear weapons capability. This is of course a discussion of capability, not intentions: but capabilities should not be ignored. And moreover, if a capability exists, intentions as to its employment may change, sometimes quickly.

There is also the possibility that a nuclear weapons state might hand over nuclear weapons or nuclear weapons technology to a client state. Statistically the chances of this occurring increases as the number of nuclear weapons states rises.

In a world where there are many nuclear states Australia may come to doubt the dependability of the United States nuclear guarantee under the ANZUS treaty. While the United States would very probably possess a disarming first strike capability against a regional nuclear power which threatened Australia, an American attempt or threat to disarm by ‘first use’ might well be seen as unjustifiable aggression, it would be open to mis-
interpretation by others and it would risk general nuclear war. Although the US alliance probably reduces the prospect of nuclear blackmail of Australia by a regional nuclear state it still remains uncertain what nuclear risks the United States would actually be willing to take in a non-vital strategic area such as Australia. A 1969 opinion poll in the United States showed that even in the defence of neighbouring Canada only 17 percent of those Americans who were polled would support the use of nuclear weapons. There would therefore probably be little public opinion pressure of a supportive kind on an American government (and probably opposition) to rescue Australia where the use of nuclear weapons was involved.

The economics of technology

In the long term, factors of technology and economics might push Australia towards nuclear weapons. Hoffman has argued that there is a trend now evident in the West towards the reduction in unpopular aspects of military force — that is, men — and an increasing emphasis on technology. Another writer has asserted that domestic support for the French and British nuclear forces is based partly on an unwillingness to bear the political and economic costs of large standing armies. Nuclear weapons allow for capital rather than manpower-intensive forces. This consideration may eventually also influence Australian leaders and public opinion. But it could be a dangerously inflexible strategy to acquire a nuclear capability if conventional defence forces, and hence the range of response options, were reduced as a consequence. Nuclear forces would be obviously inappropriate in meeting a range of lower intensity threats that Australia might face. If a grave threat to Australia was perceived there might emerge bipartisan political support for nuclear forces — on the basis of judgements that they offered a cost-effective defence strategy best suited for a technologically advanced country with scarce manpower.

In regard to the feasibility of a nuclear force, in 1969 Bellany concluded, based partly on the extensive body of overseas research, that Australia could afford and was technologically capable of producing a nuclear weapons force of some kind.

Strategic objectives for an Australian nuclear force

What are the possible strategic objectives for an Australian independent nuclear force? Four may be identified. The first three are specific and involve the achievement of deterrence.

Deterrence consists of the product of capability and credibility of the threat. It may be defined as:

"preventing contingencies from arising by communicating to an antagonist what is likely to happen to him if he creates the situation in question. Thus he will be deterred so long as there are less intolerable alternatives available to him".

I. to deter a regional nuclear power

In this situation, depending on the character of the regional power's nuclear force, deterrence might be achieved even by a technologically primitive countervailing force. The requirement would be to pose a deterrent of such capability and credibility as to be able to impose 'unacceptable damage' on the potential attacker; that is, a level of damage which would make his intended actions appear to him unprofitable. Targeting strategy might comprehend counter-value objectives such as cities and industrial areas, as well as selective counter-force targeting. A comprehensive (and probably very costly) civil defence programme, to reduce the extreme vulnerability of Australian cities to nuclear attack, would enhance the credibility of the deterrent by demonstrating a capacity to limit civilian casualties; although civil defence measures would be unlikely substantially to reduce casualties from a surprise missile attack because of the extremely short warning time.

II. to deter a conventionally-armed regional power

A regional power might be equipped with very large or technologically advanced conventional forces, against which Australia would be hard-pressed to mount a conventional defence. Australia's strategy here might be to offer the threat of unacceptable nuclear damage — an approach based on seeking advantage from a technologically advanced yet sparsely populated position. Targeting doctrine might be based on a counter-value
and counter-force approach, as well as the use of Tactical Nuclear Weapons (TNW) to defeat an invasion. In the remote, sparsely populated areas of northern Australia defensive nuclear mines might be successfully used against a conventionally armed invader. However, even if Australia were to declare that it would only employ nuclear weapons tactically and defensively it is very unlikely that a potential regional adversary would overlook the strategic and offensive potential of such weapons systems. Australia would still possess the capability to launch a strategic nuclear strike, whatever its declaratory policy.

III. to offer proportional deterrence against a major power

Such a capability would have special relevance where one or more major powers were seen to pose a direct threat to Australia, or an indirect threat through a proxy state, and where dependence on the United States or another nuclear-armed ally was no longer as a viable strategy. To even posit such a capacity for an Australian nuclear force is of course contentious. A strategy of 'proportional deterrence', or 'tearing off a limb' as the French say, poses technical and judgemental problems of capability and credibility. For instance what actual level of damage would be needed to deter the Soviet Union? The required level of 'unacceptable damage' admits of no precise calculation; it depends ultimately on the psychology of the adversary's leadership, its priorities and value-structure. The strategy depends on the thesis (developed by Pierre Gallois in *The Balance of Terror*, 1961) that middle nuclear powers do not need vast nuclear forces in order to possess a credible deterrent. The initial targeting doctrine of the French and British nuclear forces seems to have been based on attack on cities — soft, large targets within the technical capacity of the forces. It is now recognised, at least in the strategic literature, that this is a brittle strategy. An implausible, qualitative escalation is involved if a small nuclear power can only respond to an enemy's selective counter-force use of nuclear weapons by a cathartic attack on cities. Because such a strategy depends on a virtually suicidal resolve of self-destruction, it introduces doubt and reduces the credibility of the deterrent. For this reason it is now fashionable among strategists to argue that small nuclear deterrents should also have a war-fighting application—that is, a selective counter-force targeting capacity is also needed so that a strike against strategic military targets is possible.

Australia faces the problem in regard to the Soviet Union, and China less so, of strategic 'reach' and we would, therefore, require long range weapons delivery systems. Also, as noted earlier, there might be the enhanced risk of a disarming first strike before the force became operational, if the development of the Australian nuclear force were to coincide with a period of extreme military tension.

This strategic objective for an Australian nuclear deterrent is also contentious on political grounds. There would be doubt whether, even if sufficient resources were invested in acquiring it, there could exist adequate political resolve and determination in a confrontation to stand up to a major power. The Australian government and public would know that should deterrence fail, national destruction might well ensue. Secondly, the acquisition of such a deterrent force would inevitably occasion a strategic response by those who felt at risk to it. Responses might include: the deployment of strategic forces to Australia's region; the establishment of military bases in the Australian strategic area; and the application of politico-strategic pressure on regional states, to deny strategic facilities to Australia, to provide facilities to a major power and to enter into alliances with them. This option could therefore very easily reduce rather than improve Australia's security and force the commitment of large resources to defence for an indefinite period.

IV. to acquire the status of a nuclear middle power

It is difficult but perhaps not impossible to see a responsible Australian government acquiring nuclear weapons simply for this purpose of acquiring the status of a middle power—it may, however, be an element in a decision posited on a range of other strategic factors. Considerations may include increasing the political visibility of Australian military power. Military power is to be seen both in terms of its political impact and international perceptions as well as in terms of its actual
war-fighting capacity. In a threatening strategic environment the acquiring of nuclear weapons might more spectacularly and more effectively project Australia's military status than even the massive expansion of conventional forces. A strategic nuclear force would have great potential for signalling political will and resolve by its deployment and alert status to a potential adversary. In this connection Lawrence Martin argued in 1973 that in the modern world military force was likely to have a persuasive influence in world politics, orchestrated with a whole range of foreign policy instruments. Notwithstanding the likely international odium that would attach to an Australian nuclear capability it would have considerable utility as a condition of self-confidence in negotiation. Other perceived benefits of a nuclear force might include increasing Australia's weight within the US Alliance (would not the views of a nuclear Australia become more significant in Washington?). Paradoxically, a step along the nuclear road might enhance our claim on the United States for the latest in conventional weaponry in order to avoid, in US eyes, an over-dependence on nuclear weapons.

An Australian nuclear force structure

I now discuss briefly the types of nuclear forces that Australia could develop in the period up to the end of the century. Besides the selection of a fundamental strategic goal, other factors that would determine the structure of a nuclear force are:

- The time frame for decision, development and the attainment of operational readiness. (This would need to be related to the lead times of adversary development of nuclear forces, and the prospects of a disarming first strike);
- Assessments of the required damage levels to achieve deterrence;
- Targeting and warhead requirements;
- Weapons requirements and choice of delivery systems (this involves consideration of the warning time/reaction time required for target-and-response-options);
- Assessments of adversary defensive capabilities; and,
- An overall assessment of survivability and performance.*

It may be noted that in order to acquire nuclear weapons a state need not emulate the scale and sophistication of the nuclear programmes of the first five nuclear weapons states. A much more modest programme is sufficient to develop and to produce a small number of relatively simple but militarily useful warheads. (The miniaturization of nuclear warheads would, however, constitute a much more complex and demanding technical process.) Furthermore, a nuclear weapons programme need not necessarily be associated with the facilities developed for the generation of nuclear power. Instead, a small simple reactor fuelled by natural uranium might be used, together with a small reprocessing plant to extract plutonium from spent fuel. But no matter the technological road that is taken in the development of nuclear warheads, it would be extremely difficult to do it in secrecy. This would be even more likely to be the case in a relatively open society such as Australia.

The USI study to which I have already referred postulated several alternative Australian nuclear forces able to provide a deterrent against a regional nuclear power; a force based on F-111 bombers employing nuclear bombs or a nuclear-tipped stand-off missile, and a submarine launched cruise-missile system, employing Oberon-class submarines. The F-111-based system would require an air-refuelling capacity, the hardening of facilities and the dispersal of aircraft (possibly to forward bases) and their placing on a higher state of alert in order to reduce reaction time and vulnerability to attack. An indigenously developed land-based missile system was thought probably to be too expensive to develop and too vulnerable. The additional

*The main elements in the calculation of the capability of a deterrent system are:
- Calculation of the Megatonnage Equivalent (MTE) footprint over desired targets;
- Assessment of ASW/Air Defence survival probability;
- Calculation of on patrol/sortie availability;
- Calculation of the reliability of the launch and RV systems;
- Calculation of the Single Shot Kill Probability (SSKP) of the adversary's ABM/Air Defence systems;
- Assessment of the accuracy (CEP) of warheads; and,
- Assessment of over-pressure resistance of targets.
spending for an F-111 or Oberon nuclear force would be of major proportions but well within Australia’s capabilities. Plutonium warheads might be used with 20-40 kiloton (KT) yields. Pure fission weapons in the 10-20 kiloton range are the simplest practical nuclear weapons to design and build, while the production of weapons of very low weight (or very high yield) is much more complex. Greenwood estimates that from currently available information and technology, a conservative first design of a simple fusion warhead in the 10-20 KT range — likely to be attempted by a technologically rather advanced country such as Switzerland, Sweden (or Australia) — might weigh about 1000 lbs. Subsequent weight reductions could be achieved without significant loss of explosive yield. An Australian ‘regional deterrent’ might take between three and five years to develop. A number of nuclear devices might, however, be produced in a shorter time.

The selection of an air- or sea-launched system would be based on several considerations. An airborne force may be used for signalling intent, it can be recalled after launch, but it may be more vulnerable if it has no ‘stand-off’ delivery capability, especially in a modern air defence environment. A sea-launched system may be generally less vulnerable and would have a shorter reaction time provided that elements of it were constantly on patrol. A sea-launched system could, however, be subject to disavowable enemy attack in a ‘cold-war’ situation. On the other hand a submarine-launched deterrent force, through its ‘invisability’ might possibly be seen as less politically intimidatory.

Besides the development of an indigenous deterrent such as that described above there is the possibility (at present, extremely remote one might think, because of the relationships between the super powers and for reasons of world politics), of acquiring ‘off the shelf’ from an ally a bomber system (including cruise missiles), a land-based missile system, or thirdly a submarine-launched ballistic missile system. The modest, indigenous nuclear force described above very probably would not effectively deter the Soviet Union or China. But with assistance from the United States, or say the UK, (given that is, that the political impediments to such a transfer could be overcome) over a 5-10 year period Australia might acquire a SLBM deterrent system capable of offering proportional deterrence to a major power. Without the assistance of allies a national programme might take 20-30 years — if indeed it was even then within Australia’s capability to undertake in terms of the unpre—
cedented scientific and technological demands that would be placed on Australian industry and on our research and development resources.

A force of 4-5 nuclear submarines of the Polaris type would probably be needed in order to provide proportional deterrence, as well as deterring any regional power. Out of a force of five boats, two might be constantly maintained on patrol. From patrol zones in the Pacific and extending to a range of 2500 nm the boats could threaten, in the case of the Soviet Union, a population about equal to that of Australia as well as a significant slice of the Soviet Union’s industry. A possible weapons system configuration would be 6 x 40 KT warheads on each of the 16 missiles carried on each vessel — thus giving a total of 192 warheads. Selective counter-force targeting options would also be possible.

Unless the Soviet Union were to concentrate its anti-submarine warfare resources in the Pacific on the Australian force, or substantially improved the capability of them, the Australian force would seem likely to remain reasonably immune from first strike.

To turn from these more technical considerations, the option of offering proportional deterrence to a major power raises daunting political as well as financial problems. The costs of such a nuclear force would be very great and it would distort the Australian economy, defence budget and defence force structure. It might require as much as a 50 percent increase in the defence budget for the duration of the development programme and thereafter a 25 percent addition. According to Geoffrey Kemp, a Polaris submarine plus missiles was estimated in 1974 to cost up to SUS400 million. There would be other very large associated investments required in: advanced command, control and communications arrangements with back-up systems, which extended to the national political leadership; maintenance facilities; industrial infra-structure; training systems; and, advanced satellite surveillance and intelligence systems.

A nuclear force of this type would fundamentally alter our strategic and diplomatic posture and the perception which all other nations have of us. It would raise important constitutional and political issues at the national level concerning the ultimate authority to launch nuclear weapons. Would final authority be vested in the Prime Minister? What would be the nature and division of responsibility exercised by the Defence Minister, Cabinet and military leaders? A nuclear force would also raise basic issues of military professionalism, of recruitment, training and education within the Services, and of civil-military relations within Australian society.

An outline of some non-nuclear alternatives

Rather than adopt nuclear forces Australia, in pursuing an option of strategic self-reliance, might rely for its defence on forces equipped with very advanced conventional weapons. For instance, Australia might concentrate on acquiring precision guided munitions (PGM) including cruise missiles armed with conventional warheads. These weapons, because of their accuracy, could be used strategically against such targets as national command centres and key industrial plants, and so on. As part of a strategic strike force they might offer very effective deterrence against aggression. Because of their character cruise missiles could present a dual-purpose option; if eventually required they could carry nuclear warheads.

Australia might also concentrate on modern non-nuclear defensive systems. There may be extremely advanced technological possibilities in the longer term such as laser anti-missile systems as well as more advanced surveillance and warning systems. Such advanced systems might be able to defeat a technologically crude regional nuclear threat.

A thorough-going civil defence shelter and evacuation programme would reduce our vulnerability to nuclear attack. It might prove, however, to be prohibitively expensive and difficult to implement in social and political terms.

At the political level we may be able to do rather more through consultation and strategic co-operation to buttress and increase the reliability of the US Alliance and the nuclear umbrella that it offers. In a hostile strategic environment Australia might thus continue to rely (as it has tended to do in the past) on
alliances rather than a questionable level of self-reliance.

Finally, whilst putting our trust in alliances we might keep our powder dry by staying abreast of nuclear weapons and missile technology through investments in research and co-operation with allies. By these means we would be able to ensure that the lead time for the acquisition of a nuclear weapons capability remains as short as possible and, in the worst case, Australia is able to participate competitively in a regional nuclear arms race.

Conclusion

Australia could acquire through indigenous development a credible regional nuclear deterrent force — based on either an air or undersea system — within 3-5 years. This force would probably not deter a major power and might be vulnerable to a first strike by a major power. Thus such a force might actually degrade our security vis a vis a potentially hostile major power because of the provocation it may be seen to offer.

With assistance from a nuclear weapons power and a heavy financial burden over a longer period of 5-10 years we might be able to acquire a submarine launched ballistic-missile nuclear deterrent force. This force would probably offer a proportional deterrent against the Soviet Union and China (provided it was technologically updated). As well it would be likely to deter regional nuclear powers.

The necessary strategic conditions, in order for a nuclear capability to be of overall benefit to Australia's security, would seem to involve: (i) the collapse of confidence in the American alliance; (ii) the perceived ability of potentially hostile major powers to manoeuvre strategically against medium and small powers without effective restraint from their major power rivals; and (iii) the acquisition of a nuclear weapons system by a state in Australia's immediate strategic region. Each of these very dangerous possibilities would seem to be avoidable through good government and sound diplomacy within the international community. Their prevention should be a continuing objective of Australian foreign policy.

NOTES

1 Major Mench wishes to acknowledge the helpful comments provided on a draft of this article by Dr W. H. Smith of the Department of Government, Faculty of Military Studies, Duntroon, Major M. I. Carr and Dr B. N. Primrose.

2 J. L. Richardson, 'Australia and the Non-proliferation Treaty', Canberra Papers on Strategy and Defence, No 3, ANU, 1968. In this paragraph I draw heavily on Professor Richardson's perceptive remarks.


4 Such an approach is suggested most recently in a defence paper adopted in June 1972 by the NSW Congress of the RSL. It recommended that Australia build a nuclear reactor capable of producing weapons-grade uranium and that the Air Force and Navy be able to deliver nuclear-armed missiles against the bases of any aggressor. (Sydney Morning Herald and The Canberra Times, 2 June 1977). An unintended consequence of acquiring nuclear weapons might, in one sense, be the opposite of greater self-reliance: Australia might become more heavily dependant on its allies for nuclear weapons technology and within the context of world politics.

5 An Australian Nuclear Weapons Capability, Canberra, USI of the ACT, 1975.

But, in this aspect of the Alliance as in most others Australia could presumably take initiatives and accept costs in order to shore up its dependability. If Australia were dissatisfied with the nuclear aspect of the Alliance it might, as suggested by Richardson, press for the establishment within ANZUS of an arrangement similar to the NATO nuclear planning committee through which Australia and America might consult on nuclear planning strategies and contingencies. Australia might even see benefit in developing a special relationship with NATO for this purpose. See Richardson, op cit, p. 20.


12 Professor A. L. Burns has suggested the unlikely possibility of instant nuclear sharing, which, by the placing in the hands of a client state of a complete strategic weapon system by a ‘guarantor’ state, would provide possibly the most effective guarantee against a nuclear threat. He suggests that the transfer procedure could be openly rehearsed (with dummy warheads) as a means of signalling intent to a potential nuclear blackmailer. One could of course also argue that ‘instant nuclear sharing’ could be effective in coercing a non-nuclear state (e.g. Australia). See A. L. Burns, “The Soviet American Strategic Balance from an Ally’s Viewpoint”, a paper presented to the Strategic and Defence Studies Conference 25 July 1974, revised 10 February 1975, pp. 24 and 37/38.


14 A nuclear weapons programme would, however, soak up scarce technical manpower that would therefore be lost to ‘productive’ sectors of the economy.


17 Notice might be taken of the argument, however, that as nuclear warfare is very unlikely to occur without some strategic warning indications, it may well be possible to take some preliminary civil defence measures so as to reduce civilian casualties in the event of an attack.


21 For a detailed analysis of the practicality, vulnerability and economic aspects involved in the development of these nuclear weapons options see Robert O’Neill (Chairman) “Internal Problems Associated with any Acquisitions of Nuclear Weapons by Australia” in An Australian Nuclear Weapons Capability, op cit, pp. 1-12. It was estimated that an F-111 force with a cruise missile system would cost about $A380 million for capital requirements plus $A50 million annually for operation. A submarine-borne cruise tube-fired missile system might cost up to about $A390 million and over $10 million annually for operating costs.


23 The possibility of the acquisition of a strategic nuclear weapons system from a nuclear weapons state seems to be extremely remote within the existing international environment. A radical change in the relations between the superpowers and, more generally, in world order would seem to be necessary conditions for this type of arms transfer to take place. In addition to its obligations under the Nuclear Non-Proliferation Treaty (NPT) the Atomic Energy Act places strict limitations on the circumstances under which the United States may assist other countries to produce nuclear weapons. In its support for the NPT, the UK made it clear that it would not transfer nuclear weapons to any recipient country. The UK only received US nuclear information after it had demonstrated an ability to manufacture thermonuclear weapons. France seems most unlikely to risk political isolation in Europe by transferring nuclear weapons. See Ian Bellany, op cit, pp. 1-2.

24 See Geoffrey Kemp, ‘Nuclear Forces for Medium Powers — Targets and Weapons Systems’ Adelphi Paper, No 106, London, IISS, 1974. See also Commander W. L. Owen, RAN, ‘The Submarine in Australia’s Defence — Should We Go Nuclear?’ Unpublished paper delivered to the USI of the ACT, Canberra, 3 October 1973. Owen argued that Australia would need a force of only four submarines in order to establish a deterrent. A refitting facility capable of handling the nuclear propulsion system together with an operating base and support facilities would be needed. He estimated that the full programme might cost between $1500 million and $2000 million.

25 On the rather theoretical question of the availability to Australia of Polaris, Dr Des Ball has told me that if the United States proceeds with the Trident nuclear submarine programme, on present estimates a number of Polaris vessels may become surplus to USN requirements. A much more expensive alternative would be to reopen the Polaris production line.
AUSTRALIA’S vast coastline and nearby islands provide an immense defence problem in the event of a major military conflict. The present structure of the Australian Army is such that it can defend Australia from within its own boundaries providing it can reach the location overland but it is not designed to deploy troops to remote areas in Australia, at short notice, with any degree of support, let alone the islands like Norfolk and Lord Howe.

Within the present world political climate, there is always the likelihood of ‘brush fire’ conflicts breaking out, often without any warning. To counter and contain this type of threat requires a military force which can be deployed, at short notice, with full support.

The RAN because of its mobility would, in most cases, be first on the scene of any action occurring in remote areas. On arrival at the scene of action RAN units would also be in a position to provide logistic support, for a limited period, to any military force landed ashore.

A well trained Amphibious Battalion, landed and supported by the RAN would, in fact, provide an effective counter to hostile threats which occurred with little or no warning.

Ship’s Landing Parties

The Navy has traditionally provided landing parties for various roles ashore. Uppermost among these roles is Aid To The Civil Power. At no time do Landing Parties receive sufficient training to fit them for a sustained land fighting role ashore. The personnel involved, usually receive training at army bases which give a good grounding in weapon handling and safety. However, continuation training opportunities are rare and efficiency soon drops. Members of the Landing Party are often unavoidably posted and inevitably untrained men have to make good the vacancies. The overall result is a reduction in efficiency. These factors alone make ship’s landing parties, no matter how enthusiastic they may be, less than a viable solution to the problem.

An Australian Marine Corps

In the long term this may in fact be the answer. However, problems may be experienced in the following areas:

- The Marines would probably be formed from existing army units which would mean reducing the manpower involved in the ‘Continental Defence Plan’.
- Marines would be required to spend long periods deployed in ships. Army personnel might find it difficult to adapt to a maritime environment.

Existing Army Quick Reaction Forces

The Army has several units capable of quick reaction but their roles are specialised and mostly clandestine in nature. These units are:

- 1 and 2 Commando Companies (Army Reserve).
- Parachute Company.
- Special Air Service Regiment.

To use the above units in a standard land fighting role, would compromise their specialised skills and thus reduce their effectiveness.

The Naval Battalion

There is nothing new in the concept of sailors fighting as troops ashore. During the First World War, members of the Royal Naval Division earned an excellent reputation as front line troops. They saw action in many actions
on the Western Front and played an important part in the Gallipoli Campaign. Lieutenant-General Freyburg VC, who commanded the New Zealand Division in the Second World War, also served in the Royal Naval Division during the First World War. He spent much of his time in command of Hood Battalion and he always spoke highly of the fighting efficiency and esprit de corps of the RN Division.

Because of the varied life, even in peacetime, sailors develop a natural flexibility, which enables them to adapt readily to new situations. This adaptation could be extended to include land fighting. A Naval Battalion would have the following advantages:

- Sailors adapt readily to changing environments.
- Mobilisation is fast because the Navy is essentially a mobile force.
- Logistic support could be permanently embarked in a support ship. In the event of an emergency, all that would be required, would be for the Battalion to embark.

**Composition of a Naval Battalion**

The proposal is to form up a Naval Rifle Battalion. Numbers would be kept to a minimum and supporting arms kept light and man-portable. A detailed plan of the proposed battalion is shown at figure 1. In broad terms, the battalion would be comprised as follows:

- Battalion Headquarters.
- Three rifle companies, each comprising three platoons.
- Mortar and Anti-Tank sections attached to each platoon headquarters.

Headquarters staffs have been kept to a minimum to ensure that mobility and flexibility are maintained.

**Personnel**

This is the biggest hurdle to surmount, as the whole of our Defence Forces are basically under-manned. However the next few years, with the gradual acquisition of more sophisticated ships, many of the gunnery sailors' billets will probably be absorbed by the Weapon's Electrical Branch. This transition will steadily release more and more gunnery sailors into shore billets. These men would be ideal personnel for a Naval Battalion and would readily adapt to learning military skills. Also, by becoming a separate arm of the Navy, a certain esprit de corps would develop which in time would be an added incentive to recruiting. The increased man-power entering the Navy through this extra attraction, would then boost the strength of the Battalion.

Battalion officers would have to be drawn from the Seaman Branch. For junior officers, the Naval Battalion would provide an excellent grounding in leadership. To ensure continuity, officers' terms of duty with the Battalion would need to be of approximately two years' duration.

**Training**

Initially a core force of about Company strength would need to be formed. This force would be required to undergo several months...
training with army units. The aim of this training would be to give the men a good grounding in subjects such as:

- Weapon Safety and Handling.
- Field Tactics.
- Amphibious Landing Techniques, including helicopter assault methods.

Having completed this initial phase, the core force would then be in a position to train the new members of the Battalion. Joint warfare exercises, should then be programmed on a regular basis to provide continuation training and develop professional expertise.

**Accommodation**

To enable rapid deployment into fleet units, the Battalion would require to be billeted at a Naval Base near the sea, such as HMAS Penguin. Administration would need to be taken care of by the parent establishment so that Battalion administration staff could be kept to a minimum. The Sydney area would be the most suitable area to billet the Battalion, because of the ready access to fleet units.

**Deployment**

The future acquisition of the Landing Ships Heavy (LSH) is the key to the deployment of the Naval Battalion. Even without an LSH, there are several major fleet units which could deploy a landing force. For example HMAS Melbourne and HMAS Jervis Bay.

The basic plan is to have part of the Battalion (e.g. one company) embarked in an LSH or other fleet unit. The remainder would be stationed in their barracks undergoing training. Therefore at any one time, approximately one-third of the Battalion would be at instant readiness. The remainder could be embarked within 24-48 hours.

On arrival at the scene of action, the Battalion would be landed by helicopters or landing craft. The LSH would remain in the area to provide logistic support, along with her escorts. It would be likely that the Battalion would be accompanied by a Naval Task Force, which would probably include air and Naval Gunfire Support capabilities.

**Logistic Support**

The logistic effort is based on supporting a rifle battalion. Once again, the LCH is the key. Ammunition, spare clothing, medical supplies and rations would all be stowed on board. If the battalion was required to embark, all that they would require to accompany them would be personal kit and weapons.

**Conclusion**

The aim of this article has been to point out the need for a quick reaction force and propose a method by which such a force may be raised.

The Army's situation in regard to its current defence plan, does not allow for rapid deployment of troops to remote areas in Australia.

The Navy is mobile, can deploy rapidly at short notice and can provide logistic support. By further extending its capabilities, the Navy could raise a Rifle Battalion capable of landing and containing limited outbreaks of hostilities.

This extra capability would also utilise the valuable military skills of the Gunnery Sailors in providing another valuable ‘arm’ to the RAN.

Reviewed by Wing Commander W. N. Kevley, BA, BEd, RAAF Staff College, RAAF Base, Fairbairn.

A companion volume to the earlier 'Fighter Pilots of World War II' by the same author, this is the story of 15 fighter pilots who fought in the skies over Europe in 1914-1918. Aviation was in its infancy then and the author sets the scene for the biographies in this fashion:

"It was a young man's war. A war of split-second judgement and skill, where boys barely out of school locked in deadly combat high over the shell-scarred earth of Flanders — and quickly learned that their new element, the sky, was terribly unforgiving of any mistake or foolhardiness. When they fell, they fell like meteors, their passage marked by a banner of smoke and white-hot flames from which the only escape was to jump to a less agonizing death, for in those days there were no parachutes."

Robert Jackson, a writer on aviation and military history and himself a pilot and member of the Royal Air Force Volunteer Reserve, writes with sympathy and understanding whether he is delving into the diaries of Baron Manfred von Richthofen to quote an account of a particular combat or when accounting for the death of Captain 'Mick' Mannock, VC, whose hatred of the Germans clouded his judgement and led to death by pilot error. The latter was the only member of the famous No 56 Squadron who refused on one occasion to drink a toast to the 'Red Baron', von Richthofen, declaring quietly "I won't drink a toast to that bastard".

Typical of the chivalry of pilots in that era, the following message was dropped over a German airfield after the death of the Red Baron:

"To the German Flying Corps. Rittmeister Baron Manfred von Richthofen was killed in aerial combat on 21 April 1918. He was buried with full military honours. From the British Royal Air Force."

The book is written in a style that is easy to read and the biographies of the British, American, Canadian, French and German fighter pilots are amply illustrated, where applicable, from letters, diaries and other primary source materials. The book would have benefited from a proper acknowledgement of such valuable primary sources. The extracts chosen by the author are used to good effect. James McCudden, No 56 Squadron, pays tribute to Werner Voss, the 'Flying Hussar', thus: "His flying was wonderful, his courage magnificent, and in my opinion he was the bravest German airman whom it has been my privilege to fight".

One reads of Max Immelmann, the 'Eagle of Lille', forcing a British pilot to land near Brebières; an account of the combat states: "The inmate, an Englishman (instead of an observer he had taken with him a number of bombs, which he had already dropped), was severely wounded by two cross-shots in his left arm. Lieutenant Immelmann immediately landed in the neighbourhood of the Englishman, took him prisoner and arranged for his transport to the Field Hospital of the 1st Bavarian Reserve Corps". These few extracts make the book full of life and humanity, as well as giving the grimmer side of aerial warfare.

The author has written a number of books dealing with the two World Wars. This account of the earlier conflict is a valuable record of the men who founded the traditions on which later air forces were built. Although there are no illustrations of the Albatross, Bristol, Fokker and Sopwith Camel (to name a few of the types of aircraft mentioned in the text), there is a Glossary of the aircraft types given in the last three pages. Again, although there are no photographs of the aces themselves in this book, their deeds for which they
are remembered are far more important and far outweigh mere illustrations or photographs. This book is recommended for Mess libraries or individual purchase to all Service personnel who admire courage, tradition and chivalry.


Reviewed by Commander J. C. Lindsay
Royal Australian Navy

This excellent reference book is the third resulting from Seminars on Soviet Naval Developments held at Dalhousie University, Halifax, Nova Scotia. The first ‘Soviet Naval Developments: Capability and Context’, spanned the main boundaries of the subject and set down factual and technical data which could be used to support further analysis. The second, ‘Soviet Naval Policy: Objectives and Constraints’, added to the data base and covered the decision-making processes that produce Soviet policy, in particular Soviet military involvements in the Third World.

As stated by the editors, in the Introduction to this volume, it was the desire at the latest Seminar to explore two dimensions of naval influence: the degree to which the Soviet Navy is able to influence Soviet policy-making domestically; and the manner and extent to which it may be used as an instrument of Soviet influence building abroad, especially in the Third World. In addition the third volume adds further to the data base with an indepth study of the Soviet Navy as a combat force and analyses the hardware that it has at its disposal.

This book, of some 30 chapters and 650 pages, contains many highlights and it is difficult to single instances for comment. I felt the substance of the book lay in those chapters dealing with the organizational side of Soviet defence and military policy making however I also found a chapter titled ‘The Goshkov Articles’ dealing with Goshkov’s writings and their relation to policy most thought-provoking. No doubt other readers would find the section on Soviet warfighting capability covering aspects of submarine development, ASW and naval aviation and policy towards aircraft carriers rewarding. For those more technically minded the book contains a most interesting treatise on analyzing foreign warships using a reverse design process. This leads the reader from the finished Soviet warship back to the design board and hopefully the main design characteristics.

Perhaps the book’s greatest virtue is that it contains a vast amount of hitherto classified information at the unclassified level. As most of the contributors are impeccably qualified to write on the subject of ‘Soviet Naval Influence’ the unclassified contents are undoubtedly well researched and thus probably most reliable.

Unfortunately a reference book of this nature becomes dated and with the passage of time, in the rapidly changing Soviet politico/military situation, some of its many facts and figures become valueless. Already, in a book published in mid-1977, discussion on Soviet activities and plans in the Indian Ocean have been overtaken by events.

‘Soviet Naval Influence’ has much to recommend it. It is a most useful reference book for the military library and very handy at the desk of the Soviet Naval ‘watcher’. Regrettably at US$41.20 the price will keep it out of most home book-shelves.

**THE LANCASTER MANUAL, RAF Museum Series Volume 5**, obtainable in Australia through Thomas C. Lothian Pty. Ltd., 4-12 Tattersall’s Lane, Melbourne, 3000.

The most famous British bomber of the Second World War, the Avro Lancaster flew on many famous raids — including the celebrated ‘Dambuster’ raid, the daylight raid on Augsburg, and the sinking of the German Battleship Tirpitz. As the backbone of the British bombing offensive, Lancasters penetrated deep into occupied Europe, inflicting decisively crippling damage on enemy factories and installations.

As the up-engined development of the unsuccessful Avro Manchester I, the Lancaster first became operational with the RAF in March 1942. Its four 1640hp Rolls Royce Merlin engines made it a formidable weapon, and it was the only bomber capable of carrying the 22,000lb ‘Grand Slam’ bomb. By the summer of 1944, it equipped more than forty squadrons, and during its service career — with the British, Australian and Canadian air forces
over 7,000 of this redoubtable aircraft were built.

*The Lancaster Manual* is reprinted from the workshops manual originally produced by the Air Ministry for use by the personnel who flew and maintained the actual aircraft. All the essential technical details, including instructions for ground crews, handling and flying notes, electrical and radio equipment, airframe design and armament, are to be found within these pages, affording a uniquely authoritative — indeed, definitive — reference source on the Lancaster Marks I and III. Fully illustrated throughout, it is enhanced by a large fold-out diagram, showing a cutaway view of the aircraft.

The book should be of value to those with a technical interest in historical aircraft, and nostalgic for those who flew with Bomber Command in World War II.

THE ELECTRONIC BATTLEFIELD by Paul Dickson, Open Forum published by Marion Boyars, London.

Reviewed by Lieutenant Colonel J. Viksne
Chief Instructor, School of Signals

Mr Paul Dickson is a free-lance writer who is the author of “Think Tanks”, “The Future of the Workplace” and “The Great American Ice Cream Book”. His interest in the “electronic battlefield” arose while he was working as a writer for the *Electronics* magazine during the Vietnam era. It is therefore natural that this conflict would have significantly influenced the contents of the book.

The author devotes nearly two thirds of the book to Vietnam, tracing the development of electronic surveillance systems from the creation of the Defense Communications Planning Group through the “McNamara Line” to Igloo White. In the latter part of this summary he touches on precision guided munitions. A large part of this section is devoted to the debate of moral questions surrounding the employment of conventional weapons in response to unattended sensor systems.

The remainder of the book is largely devoted to the description of an assortment of surveillance equipments, command and control systems and ammunition post Vietnam. He devotes a large element to RPVs.

The author tries hard to develop the theme that the battlefield post-Vietnam is a totally integrated electronic battlefield with highly destructive weapon systems automatically responding to sensor readouts. He bases his contention on a number of unrelated facts and projects as diverse as the US developed Platoon Early Warning Systems and AWACs. He is very scornful of military claims that no such single system exists.

Based on his premise that it is a single system, he is concerned at the lack of public debate of issue involved and accountability for expenditure. Needless to say, expenditure in United States on R & D or sensor and allied electronic systems has dropped from a high of hundreds of millions of dollars annually during the Vietnam era to tens of millions spread amongst numerous separate activities today.

His final contention is that such a system dehumanizes the taking of human life to such an extent that war will become a “more attractive option” than previously. This is a debatable point.

The author has approached his project as an evangelist with a message. His journalistic and sensationalist style which includes numerous emotionally charged passages and phrases such as “military adventure” and “debacle in South East Asia” detract from his credibility. His anti-Vietnam sentiment is visible throughout the book even though it is doubtful that such an approach can any longer be used to help sell a book.

Judging by the lengthy bibliography, the author has conducted considerable research; however, nearly half of the sources are newspapers and other news publications, and the treatment of the subject reflects it. It is superficial and in parts fragmentary. As is the danger in dependence on such sources, there are a number of errors and misrepresentations such as Computer Service Support System for CS3 and a claim that the United States GB-1 was the first truly useable radio controlled weapon. This ignores the considerable British and German effort in this area in the Second World War.

Finally, there is no discussion of the effect of electronic counter measures. This will be a key element in the employment of such devices in any future conflict.