Printed and published for the Department of Defence, Canberra, by Ruskin Press, North Melbourne.

Contributions of any length will be considered but, as a guide, 3000 words is the ideal length. Articles should be typed, double spacing, on one side of the paper and submitted in duplicate.

All contributions and correspondence should be addressed to:

The Managing Editor
Defence Force Journal
Building I Room 1-32
Russell Offices
CANBERRA ACT 2600.
DEFENCE FORCE JOURNAL
No. 2
January/February 1977
A Journal of the Australian Profession of Arms

Contents

3 Editor's Comment
4 Will the Defence Force Journal Succeed?
   Wing Commander F. O. Pederick, RAAF
7 The Place of the Seaborne Aircraft Platform in Future Naval Warfare
   Lieutenant Commander R. M. Jones, RAN
23 Comparative Impressions of Military Personnel Planning in New Zealand and Australia
   Lieutenant Colonel M. M. Van Gelder
32 Prisoner of War Conduct After Capture
   Major L. N. Hall
45 Wings Over Mesopotamia
   Group Captain Keith Isaacs, AFC, ARAeS, RAAF (Retd)
56 Letter to the Editor
58 Book Reviews

No article in this Journal is to be reproduced in whole or in part without authority.
The views expressed in the articles are the author's own and do not necessarily represent official opinion or policy.

© Commonwealth of Australia 1977
HMAS Hobart, which recently made a 28,000 mile voyage round the world, the first by an Australian warship for 23 years.
A NEW year is beginning, and traditionally it brings with it a feeling of hope for the future coupled with a resolve to review our efforts and, where possible, to improve upon them.

In this, the second issue of the Defence Force Journal, it is perhaps too early to take stock as we shall be able to do a year from now. We can, however, take satisfaction from the fact that the groundwork which has gone into establishing a journal for the profession of arms has not been wasted. A personal letter from the Minister expressing his satisfaction at the standards achieved in the first issue has been received in this office and was very much appreciated by all those involved in the Journal's production.

This does not mean that we should become complacent. There is still much to do, particularly in achieving a steady flow of original material from the Navy, Air Force and Defence civilians. The Army's well has been worked for a number of years and continues to flow encouragingly. Plenty of topics need to be aired: Kangaroo Two, the biggest exercise to be held post-war in Australia, should produce several articles covering the many lessons learnt by all branches of the Defence Force; a replacement for the Mirage; a deeper look at the protection of our interests on the North West Shelf; the employment of the Reserve — the list is endless, with more topics coming up almost daily. Then there are the lessons to be learnt from the past. There must be many facets of military, maritime and aviation history inadequately covered by books at present on the library shelves. There are other aspects which could do with a reappraisal in light of fresh evidence not available to authors at the time of writing. The challenge is there. It should be taken up with eagerness by Australian servicemen and women.

There is one matter which we can only view with less than satisfaction. That is the always vexed question of distribution. It is seldom possible to achieve the perfectly balanced list, pleasing to all. In some cases, deserving readers will have been missed, in others. Journals will have been received where they are not wanted, or in excessive quantities for the group concerned. With a limited printing this is undesirable. It is hoped that recipients will be quite honest about the matter and inform the Managing Editor if indeed they are receiving too many copies. The distribution has been clearly laid down so that all members of the Defence Forces will have a chance to read a copy. There is evidence that this distribution plan is not being implemented. It is hoped that this and the quite unacceptable slowness with which copies have moved after leaving the printer to some outlying stations will be alleviated by the time this issue appears.

To finish on a happier note; several queries have been received about the crest appearing on the cover. The three service symbols of the anchor, crossed swords and eagle are readily identifiable, as is the boomerang of the country of origin. What has caused puzzlement is the star which tops the whole design. It is, of course, the seven-pointed Commonwealth or Federation Star, unique in heraldry, which also appears on our flag.
will the DEFENCE FORCE JOURNAL succeed?

Wing Commander F. O. Pederick
Royal Australian Air Force

THE new Defence Force Journal will be widely acclaimed because it meets a long-felt need in the Services. Will it give professional Servicemen and Servicewomen* access to the full spectrum of ideas affecting their profession? And will they be able to publicly air their views on matters profoundly influencing themselves, the Services and Australia? The success or failure of the Journal will be judged by how it meets these challenges. What will be involved if the challenges are accepted.

The exponential growth of knowledge and the matching plethora of information from many sources provided by several media constantly impinge on Service people. They, like other members of the community, find it difficult to sort out the important information and to keep abreast of new ideas which should affect their attitudes towards their profession. The Journal needs to try to overcome this difficulty by publishing articles which summarise current thinking on defence related subjects. Preferably the articles should be written by members of the Australian Services or of the Department of Defence.

Articles should be published covering:
- **Military History**: The Services are often accused of planning to fight the next war the same way as they fought the last one. However, history provides lessons for modern commanders which may enable them to avoid repeating the mistakes of the past. The observation that "reality in defence programmes is inversely proportional to the time since the last war" would be less true if military histories were studied more widely.
- **Current Society and Politics**: Servicemen may die to uphold the values, traditions and policies of the nation. A good understanding of the community they belong to and defend is important in a Serviceman's education because social and political ideas set the scene for all other forms of national activity, including defence.
- **The Future**: Costly defence programmes are often planned five years ahead for weapon systems which may be in operation for fifteen to twenty-five years. Servicemen therefore need some concept of the future to ensure their plans take account of likely changes.
- **Technology**: All Servicemen need to know the operational and logistic implications of technology which precedes and sets the limits on strategy and tactics.
- **Strategy**: The art of applying power to obtain political and social ends is basic to defence studies.
- **Tactics**: The essence of the military art — the command, at all levels, of forces in action.
- **Management**: The effective use of money, materials and people to achieve the aims of national defence policies needs to be studied by all aspiring Service leaders.
- **People**: As the ultimate resource, people demand close attention. Articles in this field should cover matters of direct personal interest, such as career structures, conditions of service, retirement benefits, basic psychology, personal communication and safety and security practices.

Unless Servicemen maintain a current knowledge of developments in these fields, they cannot be considered as belonging to a "profession of arms" and cannot develop their abilities to full potential. The Journal cannot

---

* Although Servicewomen are not mentioned specifically in the remainder of the paper, they are included by implication.

Wing Commander Pederick was a frequent contributor to the Army Journal, his last article being published in February 1976.
hope to provide complete information in each of the fields mentioned but it should be able to stimulate interest and guide readers towards more detailed studies.

The time is propitious and the technology is now available for planning unique organisations and weapon systems to meet Australia’s particular set of defence requirements, rather than to blindly follow other nations. For Servicemen to contribute fully in this venture they will need knowledge and skills they cannot obtain from formal training. They will need to be attuned to a wide range of ideas, to critically examine the ideas in the context of Australian defence and reject, radically modify or accept these concepts for Australian conditions. Our defence programmes are planned in difficult conditions, conditions created by inflation of costs of maintaining existing forces and of the new capital equipment. The justification of requirements and costs at several stages and competition with other Government programmes for shrinking funds add to the difficulties of programme planning. To succeed programmes need to be supported at each stage by timely, well-written, logical documentation and presented by articulate spokesmen. The Defence Force Journal can undoubtedly play a leading role in developing these writers and spokesmen by exposing them to argument and counter-argument on significant ideas in the field of defence studies. If Servicemen absorb and analyse these arguments, relate them to Government policies and the mechanisms of the higher defence organisation, the validity of their ideas and reasoning should be communicated clearly and unassailably to other Servicemen, civil servants, politicians and the public.

How will Servicemen be stimulated to read articles in the Journal and to learn and communicate some of the skills so obviously needed? Well-written, well-presented articles are clearly needed, but will not alone stimulate readership. This can only develop from consistent support for the Journal from high ranking Servicemen and civilians within Defence. They will need to contribute articles to the Journal and regularly discuss Journal articles with their subordinates, who will need to extend this process down the chains of command.

Perhaps it is even more important that everyone should better understand the significance of expressing ideas in writing. No idea, no plan — except for trivial examples — can be successful unless it is first expressed in words and communicated to others. The concepts of complex projects must be expressed in writing and communication may need to be aided by discussions, illustrations, models, diagrams, photographs and video tapes. The key people in major projects are those who can assimilate, analyse and express difficult concepts clearly, logically and concisely in speech or in writing, or preferably both. Such people have the power to influence others and the key to getting things done well in any field. The Journal will succeed if people with these abilities are detected by writing Journal articles and are given opportunities in Defence posts to test their abilities in actual programmes.

The Journal will reduce its effectiveness if the editorial policy seeks to avoid controversy. This has been a major failing of Australian Services publications in the past. Attempts to debate subjects and present ideas not conforming to existing policies have been suppressed. People of the calibre the Journal should be encouraging will soon detect such an editorial policy. They will either not contribute articles or inhibit their writing to pass editorial muster. In either event the Journal and its readers are the losers. An open editorial policy is not advocated, but there should be room for Servicemen to publicly express their sincerely held personal convictions on defence matters in a positive, constructive, respectful manner. Provided security requirements are met, this cannot be harmful. If existing programs and policies are sound they can be readily justified. If not, the points raised in a Journal article may be a catalyst for change. Military magazines in other nations allow wide ranging personal expression of views by Servicemen and the Journal should be no exception. The public forum is a good test of the soundness and acceptability of new or different viewpoints.

This raises a final point. The Journal should be unclassified and freely available on subscription to the taxpaying public. The value and general level of debate on defence matters within the Australian community would be raised if the Journal were available to newspaper defence commentators, executives of defence-related industries and ex-servicemen's
associations, civil servants and politicians as well as Servicemen.

The Journal has an important role in developing Servicemen's abilities to the full and to allow them to play their rightful part in planning Australia's defences. However, the Journal's role will not be judged a success until matters of real controversy are debated, the significance of the communication of ideas is more widely accepted and high ranking officers constantly demonstrate their support for the Journal.

Military history is dotted with great leaders who were not only men of action, but men with wide-ranging interests embracing all aspects of defence activities and far beyond. Sir John Monash, probably Australia's most outstanding military figure, was a Master of Engineering, a Bachelor of Laws, a Bachelor of Arts and a patent attorney. He could sustain an argument with experts in their respective fields on military strategy and tactics, or on the interpretation of musical symphonies. One of Monash's Chief Medical Officers admitted his toughest "trade test" was during an introductory interview with the General. Monash's powers of lucid oral and written expression were widely respected. Above all, his humanity, as expressed by his concern for, and wise use of, his soldiers, stood out in a war when other generals butchered theirs. The Journal may have little to offer a latter-day Monash, but for those of us not made of such sterling stuff, at least a few articles now and then may stir our grey matter, stimulate our conversations, make us read more widely, sometimes inspire us to produce Journal articles, and thus make us more useful members of the Services. The Journal will succeed if it achieves this.

When HMAS Brisbane was visiting Hong Kong, the flagship of the China Fleet, HMS Hawkins, gave an "At Home" to enable the officers of the Brisbane to meet the local ladies. Whilst this "At Home" was in progress, a swarm of bees settled on the quarterdeck awning of Brisbane. The Officer of the Watch in Hawkins, observing this phenomena through his telescope, immediately made a signal to Brisbane:

How many bees in Brisbane?

Back came the reply from the Australian Officer of the Watch:

How many Haws in Hawkins?


MONTHLY AWARD

The Board of Management has awarded the prize of $30 for the best original article in the November/December issue of the Defence Force Journal to Captain R. J. Linwood for his article Put Your Head in the Sand — Here Comes Their Armour.
The Place of the Seaborne Aircraft Platform in Future Naval Warfare

Lieutenant Commander R. M. Jones
Royal Australian Navy

'The assistance of aircraft in a modern Naval force has been proved to be essential. Especially is this so when the force is small and strength in ships must be compensated for by particularly good reconnaissance.' — Admiralty staff 1920-21

Very early in the story of the aircraft the potential of the flying machine as a war vehicle was realised. Various lighter-than-aircraft were used late in the nineteenth century but not until the First World War 1914-18 was the heavier-than-air machine available in a form suitable for warfare. In this war the aircraft was an outstanding success in a variety of roles, including maritime warfare, and the future of the aircraft as a war machine was assured.

In maritime warfare the aircraft proved itself essential and ships had been adapted to carry and operate aircraft. As the decades passed the ship borne aircraft underwent changes, some of them of a fundamental nature, nevertheless the aircraft became, and remained, an integral part of many navies.

The future role of the aircraft in maritime warfare is difficult to define in detail. It is, however, not difficult to see that the aircraft has an assured place in maritime warfare of the future. This place will be secure for as long as the aircraft possesses that desirable capability, best expressed as mobility, not possessed by ships. Whether it is the mobility to monitor a large sonobuoy field, mobility to reconnoitre over the horizon or mobility to rapidly close and attack a warship, the surface ship — even one employing the principles of the hovercraft or hydrofoil — will never be comparable in performance.

Far less certain is the nature of the base or ship which will operate these aircraft. In sixty years of existence the future of the aircraft carrier as a mobile airfield has seldom appeared so uncertain. This essay will trace the development of the seaborne aircraft platforms in use at present so that some of the associated problems will be understood and then consider the three existing types of air capable ships and their future; finally an entirely new type of seaborne aircraft platform or air capable ship with special applications will be described.

AIRCRAFT CARRIER DEVELOPMENT
First World War

The history of the seaborne aircraft platform can be traced back, in various forms, to the First World War. At the beginning of the war, a radius of 100 miles from shore bases...
was considered a reasonable distance over which reconnaissance aircraft could be expected to operate. Experimental take-offs from ships at sea had been made in both the Royal Navy and the United States Navy and even a landing had been effected on the USS Pennsylvania in 1911, but routine embarkation of aircraft was generally thought to be in the remote future.

Circumstances of the war in the North Sea quickly forced the development of the ship launched aircraft. The struggle between the German High Seas Fleet and the Grand Fleet of the Royal Navy took place principally in this area, mainly between cruisers and battleships. Prior to the war, Germany had become involved with the airship and once hostilities began was able to make use of Zeppelin rigid airships for naval reconnaissance. These airships were unhindered in their task of observing and bombing the Royal Navy as they could operate at heights above the maximum attainable to guns then in service in the Royal Navy. Aircraft could sometimes shoot down Zeppelins but shore-based aircraft did not have adequate range to accompany the Fleet to sea. Thus the first ships to operate aircraft at sea joined the Royal Navy to provide aircraft at sea when shore-based aircraft could not meet the requirement.

These vessels were converted cross-Channel ferries carrying a few seaplanes which were hoisted onto the water for take-off. Seldom was the North Sea calm enough to allow these frail seaplanes to take-off undamaged and if one did manage to clear the water the drag of the large floats reduced the performance to uselessness against Zeppelins. A few bombing raids were carried out with mixed success but these did not prevent airships shadowing at their will.

To ensure that aircraft would be available at all times, even with reduced performance, one seaplane carrier was fitted with a flying-off deck forward from which fighter seaplanes took off on trolleys. They could then attempt to land on the water for hoisting in after completion of the flight — if damaged, at least the task would have been tried. Such seaplanes suffered from the drag penalty imposed by floats and not many weeks elapsed before a wheeled fighter successfully took off from this platform. The wheeled fighter could not be recovered by the launching ship and must ditch if not within range of land, but it could shoot down Zeppelins. This trade of one fighter for one airship was very favourable to the Royal Navy.

Wholesale defence against Zeppelins was not yet possible as seaplane carriers were in short supply and those available were too slow to stay with the battle-fleet. Acceptance of the possible loss of the aircraft after the flight had already cleared the way for the next stage; fitting of flying-off platforms above turrets on cruisers, battle-cruisers and battleships. Fighters launched from these platforms could shoot down shadowing Zeppelins before they had seen much of importance or before they could return to Germany. The drawback was the limited number of these aircraft available as each could be launched only once before a return to harbour to embark another one. Still, a force with ten or twelve such ships included had available about twenty fighters, enough to deal with most foreseeable threats during the average sortie into the North Sea.

Between the Wars

HMS Argus pointed the way and between the wars the aircraft carrier slowly developed into a mobile airfield of about 20,000 tons with a few monsters of 33,000 tons or more which had been laid down as battleships and modified to comply with the terms of the Washington Treaty. Although the Royal Navy and the United States Navy used the carrier in slightly different roles both navies saw the value of the
aircraft carrier as in providing aircraft whenever and wherever required without worrying about the proximity to land and friendly airfields.

When carriers would not be available other means of providing aircraft at sea were developed. The value attached to aircraft reconnaissance was so great that the catapult aircraft evolved from the crude flying-off platforms of the 1914-18 period; instead of a 'one-shot' system, the aircraft was catapult launched and landed on the water alongside the parent ship for hoisting on board by crane ready for another flight.

**Second World War 1939-45**

The Second World War 1939-45 had a similar effect as the previous world war on naval flying; decades of peace-time development and discussion were compressed into a few years of rapid progress measurable against the cold figures of aircraft lost and ships sunk. In these years the cruiser-borne aircraft began to enter obsolescence; the range of shore-based aircraft and the increasing availability of aircraft carriers reduced the need for these individual aircraft and radar was taking over the reconnaissance role without the problems attendant on launching and recovery of the aircraft. The cruiser-borne aircraft had proved very susceptible to damage during enemy bombing attacks and tended to burn readily sending burning petrol over the remainder of the ship. In short, the aircraft no longer offered, at a reasonable cost, a capability not otherwise available to the warship.

Frequently the claim is made that this has established the aircraft carrier as the capital ship instead of the battleship. A more accurate assessment is that of Vice Admiral Sir Arthur Hezlet in his book 'Aircraft and Sea Power'; the aircraft, not the carrier, supplanted the battleship. The role of the ship became that of carrying the aircraft, co-operating with the aircraft and exploiting the command of the sea won by the aircraft.

**Post-War Period**

At the end of the war the typical fleet aircraft carrier being designed or under construction was about 50,000 tons full load displacement and approximately 900 feet long, an appreciable increase on the pre-war ship. The entire length was taken up by a single aircraft operating area used for both take-off and landing. In excess of 100 aircraft of various types and roles were embarked. Catapults were installed but free take-offs were more usual; the catapult was used only under special circumstances. Arrestor wires were an accepted means of ensuring the aircraft stopped in an acceptable distance (and in the right place), and the pilot had the assistance of a landing signal officer ('batsman') to signal landing information to him during the approach to the deck.

In the immediate post-war period several problems related to the introduction of the turbo-jet powered aircraft arose. The jet-powered aircraft had entered service towards the end of the war and had speeds far in excess of those possible with propeller driven fighters but major drawbacks arose when operation from ships was contemplated. The steam catapult, mirror landing aid and the angled deck solved these problems but increased the cost and complexity of the carrier.

The cost of the aircraft carrier was further increased when new ships had to be far larger to operate enough of the newer, larger and faster jets to be worthwhile. The growth in size of the carrier can be typified by comparing the Midway class, which was designed during the Second World War, and the Kittyhawk (or improved Forrestal) class still in use. USS Midway displaced 55,000 tons at full load and was 968 feet long; depending on the types she could carry up to 137 aircraft. The Midway class is now considered marginal for some fighters in current use because it is too small. USS Kittyhawk, name ship of her class, was laid down in 1956 and displaces 75,200 tons at full load, she is 1,0471 feet long and operates 90 aircraft; appreciably fewer than the Midway class but each aircraft is larger and more effective.

**CARRIERS IN SERVICE**

**Large Attack Aircraft Carriers**

Large aircraft carriers, such as USS Kittyhawk, are strategic units, with a proven ability to threaten the security of another nation. United States Navy carriers have performed this function since the advent of the atomic bomb; apparently with a good deal of success as a
large proportion of the Soviet Navy was designed, built and trained with the primary role of destroying American attack carriers. Soviet efforts to have aircraft carriers included under the terms of the strategic arms limitations talks (SALT II) indicates that the Kremlin still regards the attack carrier as a strategic threat.

In the purely maritime environment, these same attack carriers can be tasked against enemy shipping, military or commercial; her own aircraft will provide an air superiority umbrella over friendly forces and allow ships and lower performance aircraft to carry out their equally important tasks. Under such circumstances these vessels change their role slightly to that of control of the sea.

Limited war applications have been as floating, mobile airfields from which naval air power has been projected inland. Seldom since 1945 has a year passed when movement of an aircraft carrier into an area of potential conflict has not served as a warning; or an aircraft carrier has not been actively engaged in support of political objectives. As was the case when aircraft first went to sea, the carrier is providing aircraft which are not available any other way. A cursory study of post-war history shows carriers in action in Korea, Suez, Kuwait, Vietnam, Aden and Beira to name a few of the better known occasions; in every case the shore-based aircraft either could not reach the scene at all or was severely limited when it did arrive.

The United States Navy is now the only operator of a useful number of attack aircraft carriers, other Western navies operate a rapidly dwindling handful and the Soviet Union has none yet.* Fortunately the growth of naval aircraft in size and weight has stopped and carriers already in commission or under construction will allow the retention in service of the large aircraft carrier until about the year 2000 at least. Of the sixteen ships at present in commission twelve will still be in service in 1980; of these four will be nuclear powered. The remaining eight were commissioned between 1955 and 1968 and are given a thirty year life.

Small Aircraft Carriers

While the size of the large attack or 'fleet' aircraft carrier was growing during the war, a variety of smaller ships had been proving useful. The earliest of these was the escort carrier which was originally used to provide anti-submarine defence to Atlantic convoys when in the gap between shore-based aircraft operating from the western side of the Atlantic and those on the European side. Built principally on merchant ship lines and in many cases carrying cargo as well as aircraft, these ships were built quickly and cheaply and once in service made up in quantity for what they lacked in quality. In the post-war run down of the armed services all the escort carriers were either scrapped or returned to merchant service. Their legacy was acceptance of the principle that the aircraft carrier could be an escort unit rather than a ship always demanding escorting warships.

A closely related type of small ship, the light fleet carrier, was not scrapped entirely at the end of the war. Serving both the Royal Navy and the United States Navy these small carriers were built on mercantile principles but purely as aircraft carriers. Carrying between 45 and 30 aircraft depending on their size, they shared with the escort carriers the responsibility for controlling the sea and air around convoys; fighters drove off, or shot down, shadowing and attacking aircraft while anti-submarine aircraft such as the Avenger and Swordfish harassed submarines opposing the convoy. In the Pacific they supplemented the larger attack carriers in their support of the amphibious assaults which were characteristic of this theatre.

Several of these smaller carriers were purchased by various smaller navies as the backbone of their post-war naval air arms. For these smaller navies such vessels were ideal, economic in manpower and relatively cheap to maintain and run; another advantage was that a useful number of aircraft could be embarked. While operating in the Pacific theatre in 1945 one ship embarked 33 aircraft — 12 Barracuda torpedo bombers and 21 Corsair fighters. With these aircraft embarked a useful role in projecting naval air power ashore could be filled. Enough aircraft were available to defend the ship and mount an

* Now one, "Keiv", in service, one, "Minsk", building — Editor. (See page 14)
effective strike. Had the need arisen, these same small carriers could have been used effectively against other warships.

As the years passed the size and weight of carrier-borne aircraft increased to such an extent that adequate air groups for multi-threat defence and offence could not be embarked and the larger navies decided retention of the small carriers unwarranted. Smaller navies had the unpalatable choice of giving up aircraft carriers entirely or resigning themselves to obtaining only aircraft which would fit on their existing carriers after extensive and costly modification. Purchase of larger carriers was not economic either because of insufficient money or manpower, so several navies carried on with the small (20,000 ton) ship. Replacements became increasingly difficult to obtain because the miniature attack carrier, which is what some small navies were attempting to operate, was basically unrealistic. Enough aircraft could not be fitted onboard to effectively defend the parent ship and still have a capability to strike a target, nor could enough fuel, ordnance and other consumables be carried by such a small ship to support other than ‘hit and run’ raids.

Some ships became specialist anti-submarine vessels and in that role enough aircraft could be embarked and operated to perform a worthwhile task.

All the hulls of these smaller carriers were built before 1945, by the 1970s they are all of advanced age but no replacement is planned. Since none of the smaller navies appear able to afford to build replacements and the larger navies are not interested, the small carrier — as we now know it — has no future. Nations requiring aircraft capabilities at sea must look to shore-based aircraft or other air capable ships.

SHORE BASED AIRCRAFT

The frequent, almost continuous, cry of opposition to the aircraft carrier in any shape is that shore based aircraft can do the job without needing an expensive and vulnerable ship. This was demonstrably not true in two world wars but what of the present and future
when improving technology promises better maritime patrol aircraft?

Despite the potential for greater range and endurance, no attempt is presently being made to greatly extend the in-service range or endurance, any discernible trend is towards better sensors and on-board computers to handle information more efficiently. The most representative of such aircraft in the West is the Lockheed Orion which 'Jane's All the World's Aircraft' credits with a 'mission radius' of 2,070 nautical miles with no time on task, or three hours on task at 1,500 nautical miles. Such performance would require at least four expensive aircraft to keep one on station at a range of 1,500 miles for even a short time; for protracted operation at a range of 1,000 miles the United States Navy considers a squadron of nine Orions necessary to allow for maintenance on aircraft. The same service regards a radius of 300 to 500 miles from base as the maximum for effective use.

Other maritime aircraft have similar performance; although unclassified figures such as those given for the Orion are not available, the Hawker Siddeley Nimrod has a ferry range of 4,500-5,000 miles quoted, indicating a radius of action comparable to the Orion. A maritime version of the well known Boeing 707 is under development and the performance must be a matter for conjecture, however the 707-320B model — the basis for the United States Air Force's Airborne Warning and Control System (AWACS) airborne radar station — could well be the basis for a maritime aircraft and is given a 6,493 nautical miles range with maximum fuel and no reserves on landing.

These figures assume high altitude flight, the most favourable environment for jet engine fuel consumption figures. Low-level operation is an essential capability for a maritime patrol or reconnaissance aircraft if the functions of identification and weapon delivery are to be performed. Magnetic anomaly detection equipment, possibly the most effective means of classifying and tracking a submerged submarine, requires the sensing head to be close to the water.

The present total lack of apparent interest in extending the range of the shore based aircraft indicates that present ranges are acceptable. Unless there is some quite unexpected development, shore-based anti-submarine and reconnaissance aircraft will be limited to a useful radius of action of no more than 1,000 miles; at the outer limit of this radius a number of aircraft will be required to maintain one on station. Such performance may provide support to coastal convoys and limited protection to ocean convoys if all geographically available airfields could be used. Shifting alliances and the emergence of touchily independent nations make the political availability of airfields highly suspect. The only reliable airfields are the ones built in the homeland; to operate only from them leaves no ability to provide support far at sea.

**Fighter Aircraft**

Provision of shore based fighter aircraft to defend a force at sea involves more complicated calculations and expense to supply in-flight refuelling facilities (and defend them); varying transit distances from bases to combat air patrol stations and changing weapon and fuel loads further complicate the problem. Only one country — Great Britain — has seriously attempted to adopt this method of defending warships against attack and no figures are available to assist in judging the effectiveness of the system. Undoubtedly the shortage of bases from which to operate the aircraft must restrict the idea on a world-wide basis.

Maritime strike is one role which could be carried out with limited effectiveness by shore-based aircraft as long as a nation was prepared to wait while the offensive was prepared out of range and to waste time finding the target once it came within range.

**SMALLER FLIGHT DECKS**

**Helicopters**

The helicopter first became a useful naval vehicle during the Second World War when the German Navy used a twin-rotor design in convoy escort operations in the Aegean and the Mediterranean. Across the Atlantic the United States Coast Guard became interested in Ivor Sikorsky's VS-300, the first practical helicopter to be built in America. In those days of the 'mid-Atlantic gap' any way of obtaining the services of aircraft far at sea was eagerly grasped; however, the potential of the helicopter was far greater than the reality and
much work was seen as necessary before the helicopter would be an effective aid to convoy escort. Several other applications of the available resources promised quicker results and development of the helicopter was given low priority.

In the immediate post-war years the helicopter was employed and developed mainly as an aircraft to embark in an aircraft carrier, not for some years did the need for the helicopter's capabilities in the smaller warships become apparent and then as an anti-submarine weapon carrier. Beginning as a simple torpedo dropper embarked singly in small ships, the helicopter was quickly accepted; the mobility of the aircraft meant that it was used for a variety of other tasks, especially reconnaissance. In many respects the lessons learned during the years of the catapult aircraft were re-learned; particularly that there is a way to
find out what is over the horizon before it becomes an immediate threat.

Present and future roles for the helicopter have expanded from the simple one first planned. The United States Navy sees the helicopter primarily as an anti-submarine unit which can extend the sensor and weapon range of a small ship, anti-surface ship capability is severely limited. The Royal Navy takes a different view and has developed the Lynx, a helicopter designed with anti-sumarine warfare as a secondary role — the primary role is that of surface search and attack using surface skimming missiles.

Many navies now have in service, or are planning to have in service shortly, destroyers with their own helicopters; a few navies have decided that two aircraft per ship is a more flexible number. Some have decided on the cruiser size ship with an even larger number of helicopters embarked; the most publicised of these is the Soviet Navy's Moskva class, closely comparable to the Italian Andrea Doria or the Japanese Haruna. All of these ships are designed, equipped and armed as cruisers but also have a larger than usual helicopter deck aft and embark a number of helicopters to enhance the ships' capabilities.

The Royal Navy is constructing another type of ship, the through-deck cruiser; HMS Invincible will be the first and is planned to complete in 1978-79. Sometimes referred to as an aircraft carrier by another name, Invincible will be armed as a cruiser (at least by Western standards) with two twin area defence surface-to-air missiles (Sea Dart). These two launchers will absorb twenty percent of the total cost of the ship, reported as 60 million pounds. The quadruple surface-to-surface missile launchers (Exocet) originally planned have been deleted. She will have comprehensive radar equipment and will be able to operate up to nine medium size helicopters — the Sea King is presently planned. The best way to provide a reasonable number of helicopter operating spots was found to be by adoption of the straight deck with a hangar below rather than the more usual layout of a superstructure forward of a large platform on the stern.

Such a configuration enables an alternative vertical or short take-off and landing (VSTOL) aircraft to operate from Invincible. Earlier trials with the Harrier from HMS Blake and the light fleet carrier INS Vikrant demonstrated convincingly that such aircraft have far better performance if they can take-off with a short run. Invincible has her deck arranged so that such a run is possible and she is capable of embarking six Harriers.

Despite her appearance as a small aircraft carrier, the British through-deck cruiser can fairly be described as a cruiser which carries aircraft to assist in performing her duties. Her area defence missiles, her sensor fit and extensive command facilities enable her to perform a useful role without aircraft embarked. As with the smaller helicopter fitted warships, she can still perform the task, but to a lower level of effectiveness, without the aircraft. Helicopters or VSTOL aircraft will allow Invincible to be far more aware of her surroundings and in a better position to influence them, but she cannot carry enough aircraft of any type to consider aircraft as her primary weapon.

A closely related ship, at least in general appearance, is the latest addition to the Soviet Navy. Until comparatively recently the Soviet Navy has been content to rely upon shore-based aircraft entirely — even the notoriously short range anti-submarine helicopters were shore based. In the last two decades this thinking has altered, first with the introduction of ship-based helicopters to provide target information for cruise missiles, then the Moskva class of anti-submarine cruisers. Now a most unusual ship has been reported which appears to be an attempt to combine the desirable features of both the cruiser and the aircraft carrier.

This 45,000 ton ship, named Kiev,* is 900 feet long with an angled deck running for the aft two thirds. Presumably catapults or arrestor gear are not installed, although catapults could well be considered worthwhile by the Russians. An island superstructure is to starboard amidships and several missile launchers are forward. Such a configuration could derive from the same philosophy as led to the flight deck on the HMS Invincible but is more likely the result of awareness that the stern mounted deck of the Moskva class will not allow optimum use of VSTOL aircraft. Kiev will certainly be able

---

* See page 10.
to operate STOL aircraft in appreciable numbers and therein lies the basic difference between the Royal Navy ship and her Soviet counterpart; Kiev is over twice as large, she has far heavier armament and could operate many more aircraft than Invincible’s handful; she could do this in a high threat area. Whether she should be described as a cruiser with extensive aviation arrangements or a heavy armed aircraft carrier will depend on what air group the Russians finally embark and the emphasis given to her aircraft capability.

VERTICAL TAKE-OFF AIRCRAFT

The fixed wing aircraft which can take-off vertically has been advanced as the ideal shipborne aircraft. Unfortunately wholesale replacement of present helicopters by VTOL aircraft is not nearly as simple as is generally believed; the Harrier, for example, is just not compatible with the average small ship deck. For instance, a minimum freeboard of 25 feet during take-off and landing is essential to remain clear of the cloud of spray generated by the jet exhaust striking the water. If the aircraft enters this cloud the pilot cannot see at a critical stage in the flight and spray will be ingested into the engine resulting in loss of power. Additionally, because of the manner in which the nozzles are rotated to achieve vertical flight the amount of deck movement acceptable to the Harrier is very small, not nearly as much as the 4 or 5 degrees acceptable to the helicopter; far better stabilisation than presently available is necessary for small ships. And VSTOL aircraft has poor load lifting capability when taking off vertically because no lift is derived from the wings. In the short take-off mode, when lift from the wings is available, the lift (payload) of the Harrier increases by approximately 100 pounds with each one knot increase of airflow over the wings. A short take-off run to augment any natural wind to 50 knots would increase the payload by 5000 pounds. To plan for VTOL operation from platforms built on the stern of ships where such take-off runs are not possible would be to disregard most of the potential of the VSTOL aircraft.

The Harrier is referred to whenever VSTOL aircraft practical performance figures are needed because it is the only VSTOL aircraft in production in the Western world. The type equips the Royal Air Force, and the United States Marine Corps has purchased 110 for evaluation; a maritime version has been designed for use from the through-deck cruiser and has been offered for sale around the world but production has not yet commenced. The United States Navy is working on alternative types of VSTOL aircraft as successors to the Harrier but none are yet near flight trials; these successors will, hopefully, not suffer from some of the limitations in speed and range from which the Harrier suffers because of engine design.

FUTURE FLIGHT DECKS

The future of the very large flight decks on attack carriers and the very small flight decks on destroyers is relatively secure. Hulls now in existence will last for some decades and further construction is likely in one case and assured in the other. While the need for both types of deck and associated aircraft is recognised and no unforeseen technological changes take place the attack carrier and destroyer deck will continue.

For the small or middle size ship the future is far less clear. As has been described, all the hulls presently in service are old and near, or beyond, the end of their economic life. The only exception to this general rule are the amphibious assault ships which operate troop carrying and cargo helicopters only; these are already fully committed to the amphibious role. As with the attack carriers and the destroyer decks the specialised amphibious ship will exist as long as the need is recognised.

Only one ship which could possibly be described as an aircraft carrier and able to take over the tasks of the remaining small carriers is even in the planning stage, this is the United States Navy’s sea control ship — a ship which in its planned method of operation is very similar to escort carrier or light fleet carrier when first designed. This comparison should not be taken too strictly as the sea control ship is severely limited when considered as a carrier.

Sea Control Ship

The sea control ship is designed exclusively to carry and operate aircraft. Adopting the operating concept of the escort carrier, these sea control ships will be as simple and inexpensive as possible — single screw with a mini-
maximum of installed sensors. Fixed armament is planned to consist of 20 millimetre Vulcan-Phalanx rapid fire guns for close-in defence. Main sensors and armament will be installed in aircraft.

Ultimately, enough aircraft will be embarked to provide one radar early warning helicopter and two anti-submarine helicopters airborne at all times, with another anti-submarine helicopter at immediate readiness. Such a flying programme will provide warning of all air, surface and sub-surface threats and the weapon to meet the subsurface one. At least one VSTOL aircraft will be at immediate notice to meet the surface and air threat which the USN feels the fixed wing aircraft is better suited to meet. An air group of this size will not be large enough to be effective in high threat areas nor is it intended to be; neither could the ship provide the storage for the large quantities of jet-fuel and ordnance needed for high-threat area operation. For escort of military and commercial convoys in low threat areas the ship promises to be very effective.

Trials have begun of this idea using USS Guam, an LPH which is approximately the size of the planned sea control ship. The usual assault helicopters have been replaced with an air group of Sea Kings and Harriers which are demonstrating the practicality of the ship as an escort unit. The helicopters provide effective anti-submarine defence and the Harriers are proving an ability to destroy the shadower, that bane of the convoy commander. Beginning from a realistic deck launch the Harrier is consistently achieving Sidewinder launch positions against genuinely shadowing Soviet aircraft at ranges of 100 miles from the ship. In the anti-submarine role the Harrier is proving useful as a rapid-reaction sonobuoy laying vehicle and could no doubt carry and drop homing torpedoes.

Variations

The future of the sea control ship idea seems assured, regardless of United States Navy perseverance with the planned eight ships. Any navy intending to work outside the effective range of shore based aircraft must have shipborne aircraft. The aircraft requirements for effective defence, even at a very low threat level, is such that only a specialised seaborne aircraft platform can provide the numbers at reasonable cost. Through-deck cruisers could operate the necessary number of aircraft but at a unit cost far in excess of the outlay to build the far simpler sea control ship.

Existing hull and machinery designs for fleet support ships but with a flight deck and hangar instead of the usual superstructure would be one inexpensive method available to smaller navies to ensure that sufficient numbers of aircraft will be available at sea. Sensors will be the minimum for control of aircraft and weapons will be restricted to a single type of point-defence missile or rapid fire gun. An air-group of helicopters and fixed-wing aircraft will be embarked, the exact composition depending on the role envisaged and the amount of progress in VTOL aircraft technology.

An interim stage before this specialised ship would be an oiler or supply ship with accommodation for a squadron of helicopters for anti-submarine defence. The Netherlands Navy has already built the first of two Poolster class fast replenishment ships with space for five helicopters aft and the Royal Fleet Auxiliary Tidespring can operate three anti-submarine Sea Kings. Navies seeing the future aviation needs only in terms of helicopters may be content to remain at that level of naval air power — embarking in such hybrid vessels a mixture of medium size anti-submarine helicopters (e.g. Sea Kings) with a smaller helicopter for surface search and strike (e.g. Lynx).

Replenishment ship requirements conflict with some of the needs of aircraft operating ships and navies which recognise the need, and can afford to fill it, will move on to the next stage and build the specialised ship with the hangar and flight deck greatly extended. Such a seaborne aircraft platform could operate aircraft already available in the sea control role; classed as an escort she would provide the aircraft to control the maritime environment around herself. The most beneficial improvement over the less specialised ship would be the ability to despatch the shadowing aircraft which so easily remains just outside the missile envelope of conventional surface ships.

Exact details of the VSTOL fixed-wing aircraft to equip these ships are still obscure. The road to the present level of VTOL expertise
is studded with numerous expensive experimental and developmental vehicles, none of which justified production. Even the Harrier's range and speed abilities are not particularly good when taken in isolation; VTOL ability justifies the aircraft and only those services which have a clear requirement to operate away from prepared bases have so far bought Harriers in any quantity. Aircraft being planned to have higher performance all incorporate technical features which are unproven and therefore include a degree of uncertainty. For ship-borne operation an aircraft designed for catapult launching when heavy with fuel and weapons but capable of a vertical landing after the flight may prove the most effective compromise between user requirements and technical abilities. After all, a catapult launch is a short take-off without attracting an airframe size or weight penalty and vertical landings at the end of a sortie, lighter by thousands of pounds of fuel and ordnance is a technically less difficult problem.

**THE MODERN CONVOY**

One capability which has atrophied in the prevailing low-threat setting has been that of convoy defence. Present equipment capabilities, mental attitudes and training are biased towards a convoy speed in the vicinity of 12 to 15 knots. Such speeds may be above those commonly available during the Second World War, when last there was a serious worldwide threat to shipping, but they are far less than the speeds now used by the average merchant ship. Large tankers which ply the trade routes of the world have speeds in the vicinity of 17 to 20 knots; container ships are already faster and increasing in size and speed.

Not only are these container ships much faster than older ships, they are individually more important. Large, fast container ships are not replacing conventional 'break-bulk' ships on a one-for-one basis; rather one container ship is replacing seven or more of the older variety. As a specific example — about 150 ships were used to carry ammunition to Vietnam during the busiest years of the fighting; in any future such operation 25 or 30 container ships would be adequate to carry the same amount of ammunition.

Loss of a single Victory ship to a submarine in the Battle of the Atlantic was undesirable but could seldom be described as a serious blow to the war effort. The loss of a single container ship, performing the same amount of load carrying as five Victory ships, is more undesirable; the loss of two or three to enemy action would be the equivalent of a whole convoy lost — a catastrophe. Accordingly a high degree of protection is appropriate; but how?

High speed is a mixed blessing when convoy defence is planned. Service speeds of 23 knots...
are common and up to 30 knots is not unusual; this high speed in transit, with the rapid turnaround permitted by the use of containers and special handling equipment, is the key to the efficiency of the container ship and cannot be reduced without severe degradation in cargo-carrying capacity of the system as a whole. On the credit side, speed reduces the time spent in focal areas and presents the torpedo firing conventional submarine with a major time and distance problem. To balance these advantages, grave limitations are apparent when escorts are being earmarked for convoys of container ships.

At speeds of 20 knots and above, the flow of water around the sonar dome generates noise which interferes with the sonar, the higher the speed the greater the noise until well below 30 knots the ship is deaf, with no anti-submarine sensor. Ships with the speed necessary to escort a 25 knot convoy effectively are rare, as the escort needs a margin of speed superiority to investigate contacts and move around relative to the screened body. Even rarer, nowadays, are ships which could maintain a speed of over 20 knots for over two thousand miles — fuel stowages are not sufficient.

Helicopters
Adequate defence against the air and surface threat could be provided by building ships with the speed, range, sensors and armament appropriate to the role and consideration of this ship in detail will make up the latter part of this essay. Sensors appropriate to anti-submarine defence as speed are more difficult to provide. Whether passive or active modes are used, sonar is the only underwater long or medium range sensor available in the foreseeable future and sonar devices must be moving slowly, ideally stationary. Immediately one of the prime advantages of the sonar fitted anti-submarine helicopter comes to mind; a stationary transducer when in the water, but with a high speed of advance — the ideal vehicle for escorting fast merchant convoys. Aircraft such as the Sea King, already in service in several versions in many navies, have transit speeds of 100 knots and an endurance of three to four hours. Two or four homing torpedoes or depth bombs can be carried and although medium range variable depth sonar is presently installed there is no reason why passive arrays or sonobuoys should not be carried.

Providing a base for such helicopters need not cause problems. A United States Navy programme designated project ARAPAHO has already described how all the support facilities needed by a squadron can be embarked in standard 8 x 8 x 20 feet shipping containers. These containers are already air conditioned and insulated, fitted with standard naval firefighting and safety equipment as well as power and telephone. In a trial of this concept, an entire Sea King squadron (HS-5) embarked in USS Wasp with all required workshops, offices, spare parts and stores in 21 such containers averaging 7000 pounds in weight. Embarkation in a merchant ship would need additional containers for personnel accommodation and facilities as well as the storage of fuel for the aircraft.

The principal advantage of such a scheme is that squadrons earmarked to embark in such ships — ideally Reserve squadrons — could normally operate from the containers ashore. When activated and aboard ship they would be using the same facilities as used ashore with, hopefully, higher serviceability. The type and number of helicopters to embark could be determined by the threat assessment and the space available; air groups could be assembled ashore and embarked while the host ship was being turned around at the end of a journey. No prior preparation or alteration to the host ship is envisaged, she would still be manned and operated as a commercial cargo carrier with a self-contained naval component embarked to provide defence, exactly as has been done by merchantmen for hundreds of years.

Such a plan does have drawbacks; storage of consumables — fuel, water, food, spare parts, would be a major limitation and a reduction in the commercial capacity of a ship would be another. The ARAPAHO plan envisages between 50 and 100 containers to support six Sea Kings in a merchantman; other authorities give a figure of up to 500 containers being replaced although this latter figure presupposes a certain amount of permanency in the arrangement and a good deal of prior preparation. Using the working figure of 2,000
containers per ship this is a reduction of between 5 and 25 per cent in cargo capacity.

The carriage of helicopters does not entirely provide all-round defence to convoys or individual ships. Some air defence is still needed and the helicopter is not yet an effective air defence vehicle; either surface-to-air missiles or fighter aircraft are still lacking. Installation of missile systems in containers has been suggested; these would have to be built at a great cost, then stored awaiting the call for use. Storage would demand some degree of preservation and consequent setting to work after installation in the host ship, thus defeating the whole aim of the module concept which is quick installation of an already functioning system. Embarkation of fighter aircraft is more feasible, especially when the reduced numbers required for deck alert operations are calculated and the ineffectiveness of missiles against shadowing aircraft is included.

Still lacking are the necessary radar and command and control facilities in the host ship. These may be placed in modules but for the radar at least the disadvantages of mothballing for long periods are evident, as would be the difficulty of obtaining trained operators. The large number of containers is reducing the cargo carrying capacity of the host ship to an alarming degree, a detailed calculation would produce a figure approaching half of the ship’s normal cargo replaced by defensive containers by the time helicopters, VSTOL fighters, radar, missile systems and associated operations rooms with necessary fuel supplies, weapon storage and personnel facilities are included. Removal of the air defence and command capability into a special purpose ship would restore a more reasonable balance between defended and defender.

THE MICRO-AIRCRAFT CARRIER

Such a special purpose air defence ship would need an area air defence missile system (Standard?), a suitable long range air warning/air direction radar and be able to operate about six fighter aircraft. An operation room designed to accept information from, and take control of, anti-submarine and surface strike helicopters, as well as the air defence weapons, would be installed. She must be capable of up to forty knots and be able to sustain this speed for over three or four thousand miles, in a state in which a tanker or container ship can operate.

HYDROFOIL

Obviously this will not be a conventional ship with a displacement hull. Either a hydrofoil or surface-effect ship is possible and plans for both have been prepared. Hydrofoils so far built have been intended for developmental patrol boat roles but results of tests indicate that a 1,000 ton hydrofoil is feasible. A microcarrier of 1,000 tons has been designed which would be capable of 50 knots with a range of over 2,000 nautical miles when operating on foils. Such a carrier could operate two VTOL fighters and could be equipped with the necessary direction equipment.

SURFACE EFFECT SHIP

Surface effect ships of 2,000 tons are also being planned as the next step from the two 100 ton developmental vehicles (SES-100A and -100B) now being assessed by the United States Navy. Operating at a height of twenty feet to provide a stable platform in any but the most extreme weather and travelling at up to 60 knots, such a micro-carrier would fill the requirements for convoy escort. The configuration of such a ship is subject to detailed calculation and experiment but in broad detail a 200 feet by 100 feet micro-carrier would have one half, traditionally the port half, reserved for aircraft operating areas. Two 75 by 50 feet grids would be installed from which VSTOL fighters would operate. Experience has proved grids of this size essential to allow exhaust gases to escape instead of recirculating into the engine intakes when operating Harriers; the Harrier successor is unlikely to be much larger. The wind over the deck generated by either the hydrofoil or surface effect micro-carrier ensures that aircraft operating in the VTOL mode will have adequate payload. Should VTOL technology not make good its promise one or two catapults could be installed in this deck, the aircraft making a short landing on completion of the flight. The starboard half of the ship would be occupied by a conventional but streamlined superstructure which would incorporate radar antennae and missile launchers. A separate helicopter deck may be found to be advantageous on the starboard.
quarter so that immediate-notice fighters need not be disturbed for helicopter movements.

Intended specifically as an air defence escort, the surface effect ship has the same anti-submarine advantages as a helicopter. Remaining motionless on the water, variable depth sonar can be operated to detect submarines and high speed can be used to regain station. Provided space and weight capacity can be found without detracting from the primary role, the secondary role of anti-submarine defence could be filled relieving the helicopters of some of the load.

**New Escort in Use**

A hypothetical setting for using these facilities would be an increase in international tension leading to a requirement to provide multi-capable escorts for merchant shipping. The scheduling of tankers and container ships is based on the loading and unloading facilities available and forcing loaded ships to wait before sailing would reduce the effectiveness of the whole system, even more than slowing ships down in transit. Convoys may, therefore, consist of only two or three ships. Each ship would have a helicopter squadron embarked simultaneously with the loading of the cargo; the aircraft, providing a mix of anti-submarine and anti-surface capabilities, would fly on as the ship sailed. Also joining at departure would be a fast micro-carrier escort to provide full anti-air defence with missiles and fighters.

The convoy would proceed to its destination under the control of the micro-carrier acting as the command and control authority for all purposes. The convoy commander, embarked in the escort, would have available the necessary communications and information display equipment to assist him in decision making; equipment which because of its complexity could not readily be provided in the merchant ship, even using the module principle. All air-defence would be carried out by the escort, aided by airborne early warning helicopters operated from the merchantmen for detection and her own missiles and fighters for defence. Surface defence would be co-ordinated by the escort using her own radar with helicopters for surface search and strike aided by fighters for strikes against tougher targets; submarine defence would be left principally to the anti-submarine helicopters operating from the merchantmen but co-ordinated by the escort.

Fast micro-carriers would have many other uses, even to escorting military convoys including attack carriers. A VTOL fighter at immediate readiness on deck could be regarded as a low altitude combat air patrol ready to be scrambled by an airborne early warning aircraft. The near impossibility of a successful torpedo attack, and the difficulty of a successful missile attack against the fast moving vehicles make them attractive for a variety of roles where the conventional displacement hull would be at too great a risk.

As with all weapon systems there are disadvantages — cost being the greatest. The expense of providing full air direction and workshop facilities for each embarked detachment will be high, this very high cost will probably slow down the introduction of the micro-carrier but it is inevitable that eventually there will be some such vessel providing the aircraft necessary for defence of commercial convoys.

**CONCLUSION**

The driving force behind the development of the seaborne aircraft platform has been the need for the capabilities of the aircraft far at sea. To meet this need several types of air capable ship have been developed; of these, the large attack carrier, the small carrier and the helicopter fitted escort are the most prominent; three other ships are notable for some features — the sea control ship, the through deck cruiser and the latest Soviet air capable ship.

Shore based aircraft have often been suggested as a better proposition than the sea based counterpart. Within useful range of bases this may be true but beyond 500 miles from fixed shore bases present or projected maritime reconnaissance aircraft are not economic. Beyond 500 miles the extended transit times reduces the useful time on task to a useless level, beyond about 2000 miles the shore based aircraft cannot reach the scene of action at all. On a global scale, and allowing for the unreliability of overseas bases, this is unacceptable.

Destroyer-based helicopters are gaining world-wide acceptance as a normal part of the naval scene. The proliferation of deck fitted ships and the increasing capabilities of the
embarked aircraft ensures a long and profitable association between the warship and the helicopter which will last as long as the aircraft can perform tasks which the ship cannot perform unaided. These destroyer decks could not easily be adapted for carriage of VTOL fighter aircraft and for the high performance aircraft some form of specialised air capable ship is essential.

The large attack carriers, operated principally by the United States Navy, are political as much as naval weapons with the role of projecting naval air power ashore or over large areas of ocean. As long as the political need for this capability to project air power remains, and is recognised, the large attack carrier will remain in service; probably in a form very like that we now know.

The future for the small aircraft carrier is not so rosy. During the post-war proliferation of the small carrier, naval aircraft were small enough for a useful number to be carried in a single ship. Increasing size of carrier-borne aircraft forced a reduction in the numbers embarked to the point where the small ship could not retain a multi-role capability. The large navies gave up the small carrier entirely when this occurred, smaller navies could not afford to do so and persevered with the small carrier. All of these remaining examples are old and at the end of their lives; several possible replacements are possible.

Alternatives

The Royal Navy approach is the through-deck cruiser, a ship which will operate a handful of helicopters and VSTOL fighters. This ship will also be equipped with area defence surface to air missiles and comprehensive sensor and command facilities. Such a ship will be very expensive, too expensive to build in any numbers, but will be a versatile ship. Rather than a serious contender as the latest variation in aircraft carriers the high cost of the ship and the low number of aircraft carried places this ship in the class of a cruiser with extensive aviation arrangements.

The American answer to the problem is quite different. The sea control ship has been designed from the outset solely to operate aircraft which will control the sea environment in the vicinity of the parent ship. Essentially this is a defensive or escort role and such is freely admitted by the United States Navy.
which considers the ship too small to support enough aircraft for long enough to even be called an aircraft carrier. Unlike the through-deck cruiser, the sea control ship will exist solely to operate aircraft for the defence of accompanying ships — without her aircraft she will be a liability.

The Russian ship appears to be an attempt to provide a cruiser with enough aircraft to confidently face a high level of threat for a reasonable time. Exactly how it will be employed remains a matter for conjecture, it appears to fall in the same category as the attack carrier — if the need for air power of that scale is admitted, the ship will remain in service.

**Sea Control Ship Variations**

Smaller navies with a desire to operate beyond the range of shore based aircraft must look to the sea control ship idea as the only source of aircraft they can afford. Navies prepared to limit their naval air arms to helicopters could settle on the hybrid supply ship/helicopter carrier able to carry a small squadron of defensive helicopters but unable to combat the shadowing aircraft. More ambitious services could use the basic hull and machinery of a support ship as the basis of an inexpensive locally built sea control ship able to operate enough fighters and helicopters to provide adequate defence against all forms of threat.

Such a ship must be defensive. The nation wishing to operate an offensive naval air arm posing a credible threat has no choice but to look for large aircraft carriers. Only the large ship can operate enough aircraft or carry enough aviation consumables to operate aircraft for a reasonable length of time.

**Convoy Escort**

The main disadvantage of a sea control ship is low speed — it would be unable to say with a modern 25 to 30 knot container ship. Defence of commercial convoys in the decades to come will need the capabilities only aircraft can provide. Helicopters operating from shipping containers included in the commercial cargo of merchant ships would provide emergency defence against submarines and some surface threats. Provision of air defence by these modules is not feasible as too high a proportion of commercial cargo must be displaced. Rather, a special purpose air defence and command escort is needed.

Speed, range and seakeeping requirements for this escort are such that only a hydrofoil or surface effect ship could be considered. For air defence fixed wing aircraft are essential so the escort must be able to operate fighter aircraft and incorporate the necessary radar and command facilities. Communications and information display facilities are best provided in this single unit to provide the escort commander with a convenient and efficient unit from which to exercise control of the convoy.

This micro-aircraft carrier will take some years to develop but must eventually enter service as it is the only foreseeable way in which the capabilities of aircraft, so essential for convoy defence, can be obtained at sea.

---

**CURRENT DEFENCE READINGS**

Readers may find the following articles of interest.

- **Macchi's bid for RAAF contract.** *Aircraft*, September 1976: 26 -f (4 p.).
- **Army tactical data systems in the United States Army.** *British Army Review*, April 1976: 46-49.
- **Night tactical evaluation.** *Armor*, May-June 1976: 45-46.
- **The Trident system.** *Navsea Journal*, July 1976: 58 + (5 p.).
THE original purpose in writing this article was to record my impressions of the New Zealand Army. In doing so I was highly conscious of three things. One was that the New Zealand services are so very similar to their Australian counterparts that any criticisms are likely to backfire on to the author or the army to which the author belongs. The second was that it was inevitable that the author would seek to draw comparisons between the Australian and New Zealand armies and take the opportunity of commenting on Australian practice. The third is that whilst the New Zealand Services are small compared with those of Australia, the Australian Services are still very small compared with those of the United States or the United Kingdom.

The article has become therefore a vehicle for expressing some views on military personnel planning or manpower policy and using certain comparisons by way of illustration.

The opportunity has been taken in addition, to isolate the author’s strongest impressions, both good and bad, of the New Zealand Army. In so doing, I take the risk of being declared persona non grata and abusing the hospitality of my New Zealand hosts. It is true nevertheless that unless one accentuates favourable and unfavourable impressions there is little merit in writing at all.

New Zealand Defence Structure

The two ends of the defence structure spectrum are represented by the unified force of the Canadians, on the one hand, and three separate services with three ministries (with perhaps a central co-ordinating ministry) as existed in UK pre-Mountbatten and in Australia to a large extent in the fifties and sixties, on the other.

New Zealand followed the UK into the middle compromise of an integrated Ministry of Defence whilst still retaining three Services in separate uniforms. For those who have a better understanding of the defence structure of Australia, Australia would differ in the degree of integration of management. The Services in Australia retain considerable management autonomy within an “Army Office,” “Navy Office,” etc.

Military Professionalism

One immediate impression gained in New Zealand was of high (almost daunting) professionalism in the officer ranks at all levels. In using the word “professionalism” I am referring to the connotation of expertness or being businesslike, particularly as applied to individuals.

It is probably a result of having to live with financial stringency for a very long time, of having to produce a defence capability far beyond that which could normally be expected from a meagre allocation of resources, that has produced such high dedication and professionalism.

There are only 13,000 Servicemen and Servicewomen in the whole New Zealand Regular Defence Force including three Services. For comparison purposes, the New Zealand Regular Army is smaller than the Australian Infantry Corps, and just larger than the Australian Officer Corps.

Having tried to exist with 31,000 and having been manned inadequately at 44,000 to
participate in the Vietnam engagement, it is almost inconceivable to an Australian how the New Zealand Army could maintain an adequate level of military skills (or the state of the art) with such a small army.

New Zealand does in fact conduct successfully almost all the activities associated with a larger army. The secret appears to lie in the extreme professionalism of the serving officers, an attitude of mind which serves to keep up appearances and an ability to use to a maximum the training resources of other countries and the opportunities in war and peace to exercise their skills.

Unfortunate manifestations of this dedication are an inability to convey a feeling of relaxation (of being constantly on military "edge") and a tendency to over-apologise for the smallness of New Zealand forces. As I said to one officer, I wish New Zealanders would stop reminding me how small they were. I have little doubt Americans say the same about Australians.

I have a secret admiration for the conservatism or professionalism or whatever of the New Zealand forces which has led to their disinclination to chase the fads which have afflicted the Australian forces (pentropism, air mobility, task forces) or to champion transitory military causes. Whilst this could be construed as simply following the British line, it does demonstrate the value of some serious military thinking.

I was impressed by much of the staff work I witnessed, of the high standards expected in the production of staff documents. One could be excused for thinking that in Australia there appears to have been a dilution of staff presentation either as the result of a shortage of staff college graduates (to perform Grade 2 staff appointments) or some defect in officer training.

**Use of Territorials**

Having just been subjected to the agonies and findings of the Millar Committee enquiring into the Citizen Military Forces in Australia it was interesting to take a look at the operation of the Territorial Force (TF) in New Zealand.

I found a greater determination to accept the "One Army" concept and to try to integrate Territorials into the Army as a whole. Perhaps it was sheer inevitability because of the shortage of Regulars, but the effort to encourage the participation of Territorials seemed genuine and sincere.

One senior Regular Officer had a simple recipe for making the TF work and that was based on effective Regular cadres, involvement of civilians respected in the community, the provision of good facilities (both training and social) and the greater use of women in all units.

Undoubtedly the most outstanding impression of the TF stemmed from the 12 week recruit training course conducted centrally at Waiouru and Burnham. Most TF recruits opt to do 12 weeks (6 weeks basic training and six weeks specialist) in one continuous period, whilst others prefer to do six weeks basic and their specialist training at another time.

If my numbers are correct, five intakes a year are taken in, each of 300-400 men. The TF soldiers have the right of release at any time but retention during the continuous training period is very high. The flow on to part time service in TF units is, however, disappointingly low.

Large numbers of University students join for the 12 week course whilst waiting commencement of their university studies. In one intake of 300, there were apparently 102 SG1 and 108 SG2 soldiers, which indicates a high proportion of brighter men. This seasonal recruitment of University students is a feature of the Canadian and New Zealand armies but not so of the Australian Army.

From a manpower planning point of view, even if these recruits do not go on into TF units in large numbers they serve to bolster New Zealand's inactive reserve which could be called upon in defence emergency. The cessation of the Australian National Service Scheme and the inadequate support for the Active Reserve (as reflected in recruiting and retention) has had a damaging effect on the level of Australia's reserves.

**Integrated TF/RF Units**

There is one common criticism of integrated units in Australia and that is that most of the work is done by the regulars, and the reservists (CMF) are never available when they are most needed. In other words such units are rarely successful.
But in Canada and New Zealand there appears to be a more determined effort to make them work and that is probably the secret of success. As a small illustration, individual Territorials in both Canada and New Zealand were called in for service in headquarters to relieve Regulars, who were on leave or on courses, of actual rather than just “pretend” duties.

The Australian universal conscription system of the 1950s required eighteen weeks continuous service with further obligatory part-time service. Whilst not as effective in a direct military sense as a two year selective system, it did make a great contribution to Australia’s reserves. Likewise the New Zealand twelve week TF recruit training performs a similar role.

Volunteer “National Service”

Australian manpower planners had thought of a volunteer national service scheme to replace the compulsory (but selective) national service scheme, but to my knowledge it never reached the stage of a documented alternative. Likewise, in trying to recall the political utterances of 1972 I do not remember any suggestion that the compulsory scheme be phased out through, or replaced by, a genuine volunteer system.

In New Zealand, however, apart from a disappointing low retention after completion of full-time recruit training there is virtually a volunteer national service of twelve weeks duration in operation.

Integrated Ministry of Defence

As previously indicated the New Zealand Ministry of Defence is very similarly constituted to the UK Ministry of Defence with its particular combination of officers of the three Services and civilian defence officers. Integration in NZ is right “across the board” and is well illustrated by the activities of an RNZAF manpower planner who was minutely examining the structure of an army trade (as with all trades or musterings in the three Services).

From that same planner, I obtained simply expressed criteria which were conceived for RNZAF manning but were now applied universally through the New Zealand forces and they were:
• a measure of manpower stability;
• the opportunity for a career serviceman to reach the highest rank in his trade; and
• an infusion of new recruits each year.

Those simple criteria contain a wealth of manpower planning philosophy, and adherence to them ensures a correct approach to career progression, promotion opportunity, personnel flow and, less obviously, expansion potential.

New Zealand in 1975 was, like Australia in 1974, poised to commit the cardinal sin of manning and that was to suspend recruiting in order to achieve lower manpower targets. Of all the methods of reducing numbers this would be the one which has the worst long term consequences. It is however more politically acceptable because it avoids increasing wastage “by other means” or retrenchments.

I heard rumblings that Service allegiance was still very strong and that central defence policy was subservient to the views of the single services. This militated against effective central control by the Ministry of Defence particularly in personnel matters. Despite this I was impressed by the military presence in the Ministry, and with no disrespect to Australian or New Zealand civilians, I got the feeling that within political guidelines the uniformed personnel did make important decisions.

EDP Facilities

The world of the computer is a mysterious one and I would never pretend to understand all the intricacies of programming, and information storage and retrieval and hardware configuration. What did impress me in New Zealand was that an economically staffed and equipped computer centre appeared to be able to produce the same degree of service as the massive computer complex of the Australian Department of Defence.

Discounting the difference in the sizes of the two defence forces and a non-linear requirement for information and computation, the New Zealand approach appeared to be the more economical and effective.

Also, notwithstanding the close defence links between Australia and New Zealand it was a surprise to find that New Zealand had since 1970 been actively exploring the use of programmed mathematical models to examine and propose changes to servicemen’s career structures.

Officer Training

Having acquired the habit of asking soldiers and officers a few of their career details in order to bolster preconceived or theoretical “constructs” of career progression, I rapidly gained the impression that the New Zealand army officer corps is the most variegated imaginable. To use my own expression, it resembles a patch-work quilt of background and experience.

The UK, US, Canadian or Australian officer corps have a central core of training and experience derived from particular officer training institutions and subsequent career progression. I do not think I found two New Zealand officers with identical career backgrounds. Whilst this might enable the development of a high order of individual professionalism, it does little for the corporate body of officers.

I heard all the reasons why there should not be a New Zealand officer training academy/school/institution and these were mainly based on the needs of economy, lack of numbers or the difficulty in reconciling the three Services to the idea.

Without pursuing the detail, I was firmly convinced that there was a need for New Zealand to have its own defence academy to take in officer candidates from the three Services. Economics could be achieved through having a central location in a provincial city, and adjacent to a university, airfield and not too distant from a naval port. Civilians could be trained for other government service, and the academy could be used as an extension of New Zealand’s overseas aid. New Zealand, like Australia, now has defence obligations in the South Pacific and military education is one type of aid well within New Zealand’s capabilities. Officer cadets could be taken from several East Asian and Pacific countries.

The establishment of an officer training academy with postgraduate military training facilities (junior staff college or school of tactics and administration) could obviate the situation where there are some New Zealand officers who have spent more military service in Australia (not overseas) than in New Zealand itself.
Even allowing for today’s increased cost of military training, New Zealanders tend to forget that it was as early as 1911, following Lord Kitchener’s suggestion, that Australia set up its own military college. New Zealand has to start sometime and presumably the sooner the better.

A manifestation of the absence of a military academy is the lack of a focal point for military ceremonial in New Zealand. By default the Regular Force Cadet School has taken over this role. Whilst not detracting from the excellent standard of training and discipline at the Cadet School, the build up of New Zealand army tradition in the cadet school instead of a military college appears to be a misplaced objective. The officer corps has the greater length of service, is the basic foundation of military expansion and should be the repository of the Army’s central tradition.

**Mobilization Planning**

Regardless of what mobilization planning is carried out in the operations or intelligence offices of Defence, unless such planning is reflected in current and future personnel policies it has little chance of success. It is a little trite, but true none the less, that the expansion potential of the armed services depends on the current composition, by rank and trade, of the Regular and active Territorial forces.

I detected little dynamic thinking in New Zealand on the question of mobilization and expansion potential, and certainly no emphasis on personnel policies which took into account, so-called “vertical flexibility”.

There seemed to be little attempt to justify high throughput of men and women as a means of creating expansion potential. (High throughput increases training costs but does not increase total strengths). Likewise there was little attempt to design rank structures based on “flow” rather than simply filling establishment positions. Rather there was the more common fixation with establishment control, manpower ceilings (by rank) and filling vacancies.

Whilst understanding of the situation was professed by a number of New Zealand officers, the political dictates of economy and ceilings seemed to drown most manpower initiative.
Manpower Policy
In the Ministry of Defence, manpower planning policy is firmly located in Policy Branch (the old “General Staff”) and Personnel Branch is, under these circumstances, merely an implementer of manpower policy.

This system can work but it presupposes a high level of personnel planning expertise in Policy Branch, but this would be unusual unless there were officers who had had extensive experience in Personnel Branch or a great sympathy with personnel policies. It generally leads to the situation of domination by “liability” (establishment) managers at the expense of the personnel “asset”. It can lead to distortions of the personnel asset with serious long term manpower consequences.

The serious consequences can come about through insufficient consideration of the value of “nurturing” the personnel asset — providing career opportunities, promotion prospects and adequate numbers of men by rank and trade, and making the asset more “robust” to withstand sudden demands for expansion or retraction. Liability managers by their very nature have to react to political and financial restraints, and have little compunction in stopping recruiting to reach manpower ceilings or creating or eliminating establishment positions without regard for the effect on personnel flow.

Personnel branch cannot just have an advisory and implementing role but must make a positive contribution to manpower policies.

Regular Force Cadet School
I have mentioned this school in the context of the lack of a permanent officer training institution.

The cadet school is similar to the Australian Army Apprentices’ School at Balcombe, but it is a significant source not only of army tradesmen but of non-tradesmen. It more approximates a “boys” institution than the Australian AAS and is treated as an important means of recruiting into the Regular Force.

The Australian Army would place more reliance on normal “male general enlistments” rather than capturing younger men prior to adult entry age. The age of entry into the RFCS is 15 to 16, based on the completion of a one or two year course, dictated by the need to finish at the age of 17½ to be adult soldiers.

The RFCS is a highly professional well disciplined and conducted school. I would argue however that when it comes to providing non-tradesmen and even tradesmen it is not a cost-effective military means of inducting manpower. A personnel planner will not convince the New Zealand army of this of course because the RFCS has become such a permanent and highly regarded institution in the New Zealand military scheme, and outsiders would see the school as extremely worthwhile welfare and educational community service.

What assists in the continued existence of the school — despite external community advances in education and welfare — is the absence of another focus of ceremonial and tradition such as a military college.

Without pursing detailed argument, a retention profile of graduates of RFCS could well reveal that the RFCS as a recruiting base and as a supplier of senior NCOs is not a cost effective institution. And I hope I shall not hear the argument that is oft put up in support of the Australian AAS, that it is a significant source of officers. Officers can well be obtained by direct officer cadet recruiting or in-service recruiting from male general enlistments.

School Cadet Scheme
I was most disappointed in New Zealand’s policy as in Australia in 1975 of letting the School Cadet Scheme “wither on the vine”. I would maintain that an active cadet scheme within the administrative framework of the school system is the most economical means of training large numbers of youth in basic military skills. Whether such young men continue on into the Regular or Territorial Force is relatively unimportant; it is their contribution to the nation’s hidden reserves of military manpower which is.

It is often forgotten that a large number of boys in their last years at school are older than the entry age for adult entry into the regular force. The fact that the former are more highly educated would generally mean that they have a greater ability to absorb leadership training and certain military skills.

I would personally believe that the movement to demilitarize cadet training in favour of non-military skills has caused incalculable harm to the nations’ (both Australian and New Zealand’s) military manpower reserve.
COMPARATIVE IMPRESSIONS OF MILITARY PERSONNEL PLANNING IN N.Z. AND AUST. 29

Zealand) very basic military resource, its young manpower.

Other Rank Structure Study Group (ORSSG)

Sufficient to say that as early as 1970 New Zealand was actively investigating advanced techniques in manpower planning. It launched a Study Group which had the potential to be highly innovatory in military personnel practice. For a number of reasons unknown to the author the study was put away, and there was a reversion to more orthodox personnel policies.

It is understood that New Zealand wished to avoid an affliction which has struck United States, Canadian and Australian Armies and to a lesser extent the British Army, and that was the increasing preoccupation with pay groupings and the complicated wage relationships with civilian trades and occupations. The latter can become a "monster" which upsets simple and easily administered personnel policies, and causes difficulties in inter-Service relationships.

Emphasis on pay groupings is only a short distance from detailed work study exercises, and I am the first to advocate that the pay a soldier gets should not necessarily be related to his peace time work load — a soldier should be paid for his potential value in war not his actual value in peace.

Regardless of the reasons for not proceeding with ORSSG, it is a pity that New Zealand did not pursue its innovative work in modelling and rank structuring. It might be a case of "throwing out the baby with the bathwater".

General Comment on Personnel Branch

The size of New Zealand forces was often used as an excuse for not using certain techniques of manpower planning or rank structuring. When the postings officer knows all the officers or men personally what is the use of planning or structuring? When one officer leaving the Service of a Corps can completely upset the best laid plans, what is the use in trying to look ahead or do detailed calculations on the input/wastage patterns?

The answer to this is that the smaller Service/Corps/trade the greater the requirement for planning and a foreknowledge of the consequences of manpower activity. Large organ-

Each year some 70 Regular Force Cadets graduate into the New Zealand Army. The Class Patron for 1971, Captain Charles Upham VC and Bar presents his Battledress jacket with the VC ribbon attached to one of the Graduates of "Upham Class" — December 1971.

New Zealand Regular Force Cadets undergoing small arms weapons training. Cadets are taught basic soldier skills, methods of instruction, and commence training in their particular trade prior to graduating into the Regular Army.

(Photographs courtesy New Zealand High Commissioner)
isations have a certain robustness or flexibility which can cover manpower deficiencies, but not so the smaller organisation where single persons are important.

I have commented on the professionalism in all ranks of the New Zealand Army and indeed the three Services. What I would be happier to see if this professionalism unleashed in the manpower planning field, and a less constrained Personnel Branch operating more vigorously in the area of rank structuring, mobilization and expansion potential.

The urgency arises not just from possible threat situations or involvement in conflict but from the increasing significance of both Australia and New Zealand in the regions of South East Asia and the South Pacific. The emerging nations outside the Chinese or Japanese spheres of direct influence will look increasingly to Australia and New Zealand for military leadership and the development of military doctrine.

Conclusions

In respect of the New Zealand Army I was impressed by the following:

- high but somewhat rigorous professionalism in the officer ranks at all levels;
- a determined effort to use Territorials ("Active Reserve") in a "one-Army" concept;
- the use of integrated Territorial Force/Regular Force units;
- the TF twelve-weekly recruit training which amounted virtually to a volunteer "National Service" training scheme.
- the truly integrated nature of the Ministry of Defence; and
- the modest but very effective EDP facilities.

I was less impressed by:

- the continuous self-assertion by New Zealanders that their forces are so small (it was the reiteration not the fact which jarred);
- the continued reliance on other countries for officer training facilities ("the NZ officer corps resembles a patch-work quilt of background and experience");
- lack of emphasis on mobilization planning or the expansion potential of the regular force;
- location of most aspects of manpower policy in Policy Branch in the Ministry of Defence as opposed to Personnel Branch (a situation which I believe could lead to domination by "liability" managers at the expense of the personnel asset);
- undue emphasis on the Regular Force Cadet School as a means of recruiting into the Regular Army;
- New Zealand's policy of letting the School Cadet scheme "wither on the vine"; and
- apparent lack of motivation to explore detailed manpower planning techniques (as evidenced by the halt called to the Other Rank Structure Study Group).

The exercise in looking critically at another organisation is a very rewarding one, as a range of new perspectives are unfolded. It can serve to reinforce opinions, offer up new ideas or simply disenchant. It was most rewarding when one found new initiatives which had not been conceived of, or implemented, in Australia.

If I had to make a recommendation it would be that New Zealand and Australia exchange officers work for periods in the Personnel Branches of the respective Defence Forces. There would appear to be adequate exchange in materiel, logistics and operations but too little in the personnel management area. It is very wasteful of resources not to exchange expertise in the vital area of personnel. On a couple of occasions I noticed that there had been parallel but not related developments in personnel management in the two countries, and much time and effort could have been saved by joint or shared endeavour. It was my distinct impression that any Australian initiatives in this regard would not only be welcomed by New Zealand but would be of mutual benefit.

Editor's Note:

The article was sent to the Assistant Chief of Defence Staff (Personnel) in Wellington for approval and comment. The following is an
extract from the reply which brings out points of interest for the Australian reader:

- In relation to the creation of a New Zealand Military Academy, we accept that Lieutenant Colonel Van Gelder formulated his views in the context of personnel management. However, the establishment of a Military Academy in New Zealand must be looked at from wider viewpoints. The factors that led Kitchener to recommend the establishment of Duntroon and to recommend that New Zealand cadets attend Duntroon, are still persuasive. It could be an interesting matter for debate as to whether the national and overall military interests of Australia and New Zealand would be better served by separate Military/Service Academies, or whether the original factors that led to New Zealand being invited to send cadets to Duntroon are still valid — either from the New Zealand or Australian point of view.

- In relation to the comment “the patchwork quilt of background and experience”. We would obviously not question the comment, or its apt expression; nor do we consider it as being disadvantageous. It is, however, interesting to observe in this context that, excluding straight specialist and Quartermaster Commissions, 71% of the current male career officers in the New Zealand Army have been trained either at Duntroon or at Portsea. This surprisingly large percentage, drawn from what could be described as a single source, would suggest a fair degree of commonality. It would be interesting to know if the Australian Army has a similar degree of “single-source integrity”.

- In relation to the RF Cadet School. The article states that the Cadet School is “a significant source, not only of Army tradesmen, but of non-tradesmen and questions the cost-effectiveness of this method of inducting manpower. While we do not wish to debate the conclusions which the author arrived at, we should perhaps give the statistics which we believe do not wholly support the impression given in the paper. The relevant figures are:

  - Average annual Army recruit intake: 679
  - Average annual Regular Forces cadet intake: 110
  - Average number of non-tradesmen in the annual cadet intake: 45

  The Cadet School, in other words, provides a little more than 5% of the Army's non-tradesmen intake. The point of real interest to the Army is that this relatively small non-tradesmen input provides such a significant source of the Army's NCOs in the rank of Sergeant and above.

* * *

Please understand there is no pessimism in this house and we are not interested in the possibilities of defeat: they do not exist.

  Queen Victoria.

* * *

Courage is almost a contradiction in terms. It means a strong desire to live, taking the form of a readiness to die.

  G. K. Chesterton.

* * *

Old age isn't so bad when you consider the alternative.

  Maurice Chevalier.
Introduction

The conclusion of the Korean War saw many countries, including our own, inquiring into the conduct of their servicemen whilst prisoners of war (PW) of the enemy. The view of the Australian Government, which is still applicable as far as the author is aware, was stated to the Parliament by the Minister for Defence, when he said, inter alia: 'It has been decided that members of the forces shall be instructed that if they are taken prisoner in any future operations, that they can be required under the terms of the Geneva Convention only to furnish to their captors their name, rank, number, and date of birth. Experience has shown that any relaxation of this rule can result only in the divulgence by prisoners of war of information useful to the enemy. At the same time, members of the forces will be given knowledge of the conditions they may meet if taken prisoner and the aim will be to strengthen, by various training and administrative methods, those military qualities which support a fighting man in the stresses of combat conditions and sustain him if he becomes a prisoner of war. These principles will apply to the Australian forces'.

Now, some twenty years later, are these principles still appropriate to the services, and if the answer is yes, how are they being implemented?

As we evaluate the lessons flowing from our experience in the Vietnam War, it is an opportune time to consider this easily forgotten aspect of our training doctrine. And how important for survival can be the lessons for those who may have to put them into practice.

During the hysteria of war there is no more helpless and appealing figure than that of the PW. Fighting men speak of the 'fortunes of war' and declare that it is neither dishonourable nor heroic to be taken prisoner. In combat, luck cannot smile on all participants, and some are bound to lose. The man taken captive is one of the unlucky — a soldier of misfortune.

Because he is at the mercy of the detaining belligerent, the prisoner may be subjected to many deprivations and hardships. Often he is treated cruelly, sometimes by physical means and at other times by more subtle psychological techniques. One thing is clear, however; cruelty is no monopoly of the past. The 20th century has borne witness to such treatment of the helpless prisoner as would have made many older barbarisms appear mild by comparison.

Recent allegations of this were a statement by a returning U.S. PW from Vietnam: 'I have been tortured, I have been beaten, I have been placed in solitary confinement, I have been harassed, I have been humiliated'.

Atrocities have not been intermittent and casual, as they spring both from the sadism
of individuals and from a conscious group system which actively rejects, subverts, and destroys standards of conduct and aims at degrading human values. In hardly any war has the lot of the PW been a happy one. In almost every war, criminal individuals and cruel governments have added to the misery of helpless people who are at their mercy.

**Aim**

The aim of this article is to discuss what changes, if any, should be made in the instructions given to servicemen to counter enemy interrogation and indoctrination, and what measures might be adopted during normal service training, and before battle, to strengthen the ‘will to resist’ both before and after capture.

The way in which I intend to approach the subject is to consider methods of interrogation and indoctrination; assess enemy policy in these two areas; arrive at a PW policy to meet this interrogation and indoctrination; and finally examine just how we inculcate a ‘will to resist’ in the serviceman.

**Methods of Interrogation and Indoctrination**

Let us firstly consider some contemporary methods of interrogation and indoctrination. It is necessary to bear in mind that in the Communist system, interrogation and indoctrination are both part of one interdependent process.

‘Interrogation is the attempt by the capturing power to extract information which can be turned to advantage. Indoctrination, on the other hand, attempts to change the outlook of the prisoner of war perhaps to the extent that he becomes the willing servant (at least in terms of labour) of the nation holding him.”

The military training pamphlet “Survival, 1969”, in Section 8, contains detailed information on interrogation and indoctrination; in summary, it can be said that the modern system of interrogation involves three specific processes, namely:

- **Research** — to decide the type of PW likely to provide worthwhile interrogation targets.
Selection — of PW known to have knowledge of subjects on which information is required.

Extraction — the means by which PW are induced to give information, and the actual method of communication.

There is sufficient evidence to show the extent to which an enemy will go to extract the information he requires. Broadly, the following techniques are used:

Rewards and Punishments — a system which plays upon the natural tendency to seek pleasures and resist pain.

Divide and Conquer — a system which denies the prisoners' normal sources of leadership and encourages divisiveness and suspicion among them.

Idea Environment — a strictly controlled environment with no friendly news sources (radios, newspapers, letters) coupled with a heavy diet of political news.

The key to the whole system is likely to be the initial success in identifying and selecting prisoners for interrogation on subjects about which they have useful information. In this regard great use has been made of questionnaires, as well as for indoctrination purposes: 'In order to assist his classification as a “progressive” or “reactionary” the prisoner had, at frequent intervals, to complete questionnaires designed to give his captors a greater insight into his background and character'.

As mentioned earlier, indoctrination as practised by the Communists becomes an integral part of the interrogation process for military purposes; indeed, Major James N. Powa who survived five years captivity in Viet Cong prison camps, states: '... as far as they're (the Viet Cong) concerned indoctrination takes precedence over interrogation. Unlike World War II days the enemy openly tries to get you to betray your government. This is for propaganda reasons. To them, world political opinion is of great importance ...'.

Similarly, in a well reasoned paper, Colonel Krone advocates 'the fact that the political dimension in warfare has become increasingly important in wars for limited objectives leads to a fundamental observation: the overwhelming motivation for treatment of prisoners of war under these conditions is political'.

A good example of the use of PW as a political asset of great value was the attempt by North Vietnam to halt the American bombing. Notice was served that captured U.S. flyers were to be tried as war criminals. World-wide reaction was so strong that on 23 July 1966 Ho Chi Minh backed down and announced that "no trials were in view". It appears that when Ho Chi Minh realised he was losing support for his political objectives, particularly from within the United States where a hardened unified American position might result, he relented.

As demonstrated in Korea, then Vietnam, the Communists' aim was to win over their captives to their own political beliefs, either by persuasion, 'education', or coercion, or by a combination of all three, and thus to subordinate them to their will, to the degree necessary to obtain their complete collaboration. The prisoners so affected were expected not only to provide military and other information, but also to disseminate the Communist viewpoint to their compatriots, to inform against them, and to assist the enemy in any other of his insidious efforts to control all prisoners.

The methods used by the enemy to further their indoctrination aims are in the first instance similar to those used for interrogation. They include all the methods of coercion used for that purpose. As with interrogation, the process depends to a great extent on the prisoner's initial willingness to answer oral questions or complete questionnaires designed to discover the domestic and social details of his civilian life, and thus to enable the Communists to segregate prisoners into batches more or less likely to be receptive to further instruction, and ultimately to co-operate.

The British report on their Korean experience states: 'It gradually became clear that the Chinese aimed to convert at least a minority of prisoners to Communism and then to use this minority to undermine the confidence of the remainder, thus rendering them in turn susceptible to Communist indoctrination'.

Assessment of Communist Policy to Interrogation and Indoctrination

So far we have considered the nature of enemy methods of interrogation and indoctrination, and noted the changing role of the
PW from purely a source of military intelligence, to that of an important instrument of foreign policy. This variation is important when considering our policy to counter enemy methods. However, let us initially assess the future enemy policy regarding interrogation and indoctrination.

Firstly, let us consider international law. It is not the aim of this paper to provide the historical background to the development of laws for the humanitarian treatment of prisoners and other victims of war; let it suffice to state that the main body of relevant international law applicable to warfare today is the Geneva Conventions of 1949, and in particular, that which stipulates the status and protection for the PW is the 'Geneva Convention Relative to the Treatment of Prisoners of War' (GCPW).

Further information may be obtained from Section 6 of 'Survival, 1969', as well as the pamphlet 'Unit Guide to the 1949 Geneva Conventions for the Protection of War Victims', issued to sub-unit level, which has special application to the Australian services.

Russia, China, North Vietnam, all Socialist Group States and nearly ninety emerging States have taken exception to Article 85 of GCPW. In view of their reservation to Article 85, the signing of a confession or the making of a statement by a PW is likely to convict him as a war criminal under the laws of his captors. This conviction has the effect of removing him from the prisoner of war status and, according to the reservation, denies him any protection under the terms of the Geneva Convention and repatriation until a prison sentence is served. It must be assumed, therefore, so that service men may be prepared for the worst case, that Russians, Chinese and others may well not carry out all the provisions of GCPW even though, for propaganda purposes, they may claim to follow it to the letter.

Secondly, it must be accepted as a standard practice, and indeed a most important feature of the enemy technique, that questionnaires will be used for the purpose of eliciting military and social/political information.

Thirdly, what is the assessment of the likely enemy policy regarding indoctrination in a future war? If there was any prospect of the war being a short one, the enemy might not think the value of an intensive indoctrination campaign commensurate with the benefits to be gained from it. On the other hand, if they expected a war of long duration, they might well consider an indoctrination campaign worthwhile. It would, however, appear probable that — whatever the enemy appreciation may be — some, if not all, indoctrination methods will be employed. Though they may no longer be used to 'convert' the prisoner, we may expect them to be used with a view to his subjugation and collaboration; this method of subjugating the individual is a normal feature in the attitude of Communist China to any PW.

Eugene Kinkead emphasises this aspect in his unique report on the intensive, five year study by the U.S. Army of the effect of Communist indoctrination of its PW in Korea. He states: 'The kind of information sought by Chinese military intelligence personnel, and the use to which they put it, make it clear that these officers were an integral part of the Communist propaganda machine, and that the details gained in their interrogation of prisoners were used not so much for military purposes as to further their campaign of subverting the prisoners' loyalty and of influencing the free world'.

It would be in a minor war that we would expect the enemy to make a major indoctrination effort. Success in such action would bring them solid advantages in the way of propaganda material, means of attacking the morale of relatives, and a supply of ex-PWs prepared for subversive activities in their home countries at the end of hostilities. It would be particularly necessary in such circumstances to protect our men against indoctrination techniques.

A PW Policy to Meet Interrogation and Indoctrination

It would now seem appropriate to consider our PW policy to meet probable enemy methods of interrogation and indoctrination. The main problem to be faced is whether some relaxation of the existing rule (contained in Australian Military Order 309A, as well as GCPW) of number, rank, name and date of birth, should be permitted in order to give a PW more chance to avoid ill-treatment; should a prisoner be allowed to divulge information
which would be of little or no value to the enemy? This aspect has been argued with great clarity by Lieutenant S. H. Scarlett\textsuperscript{10} and Lieutenant Colonel P. J. Cameron.\textsuperscript{11}

In considering what policy should be recommended I am forced to the conclusion that there is no ideal solution to this problem. On the one hand considerations of military security and intelligence favour strict adherence to the existing rule of number, rank, name and date of birth. On the other hand, all the evidence concerning treatment of PW by enemy powers, as well as the conclusions to be drawn from the ‘spy trials’ within the Communist world, seem to indicate that the enemy will go to any lengths to ‘break’ a prisoner from whom they require particular information, and that in the overwhelming majority of cases they succeed: ‘I never met a man with whom they were not able to gain at least some of their objectives’, states a returning U.S. PW from Vietnam.\textsuperscript{12}

In order to reach a conclusion to this problem, perhaps we should pose the following questions:

- Can all servicemen be trained effectively to remember, when at a low ebb as a PW, what they should not talk about and what is permissible?
- Is it fair on the PW to leave it to his discretion when he may open his mouth?
- Can a prisoner be expected to spot what is or is not a dangerous question? Dangerous, that is, from the point of view of giving away valuable information.
- Is it realistic to expect an interrogator to be satisfied with a conversation on harmless matters?
- Once a prisoner has begun to talk will he be allowed to stop when he has exhausted the topics which he, the PW, is prepared to discuss?

The principal arguments in favour of the maintenance of the existing rule may be summarised as follows:

- Necessity for a clear and simple instruction which would be understood and remembered by troops under the stress of capture.
- The impracticability of allowing a man to talk on certain restricted subjects; once a prisoner talks at all, he will not be able to stop.

The continuing value of intelligence to be derived from PW interrogation:

- The inability of a prisoner to know what information, apparently harmless, might be of value to the enemy.
- The fact that number, rank, name and date of birth is all that is required under the Geneva Convention.

Servicemen, even when captured, are still members of the armed forces, and should continue to resist the enemy in all possible ways.

Willingness on the part of a prisoner to talk on minor, non-military matters only is most unlikely to save him from duress.

The following are the major arguments that may be put forward in favour of relaxing, in some way, the existing rule:

- The latitude of this policy would give a PW a better chance of getting through his interrogation without drawing attention to himself or being subjected, unnecessarily, to torture or ill-treatment. It would also render the enemy’s ‘Selection’ problem more difficult by overburdening his machine.
- Experience in Korea and Vietnam has shown that the majority of PWs subjected to duress will inevitably talk, and the reality of this should be recognised.
- If the part that conventional forces play in a major war will be relatively smaller than in the past, then the value of PW intelligence from this source will be less than hitherto, and the risk of inadvertently giving the enemy military information when replying to interrogation could therefore be accepted.
- Finally, a factor that should be considered before arriving at a firm policy on how our troops should conduct themselves after capture, is the need for a common policy for the three services.

It may be argued that the likelihood of capture by the enemy presents a different problem to different services, or indeed, to different branches of the same service. The land forces will only be taken captive when they are beaten in battle or cease to resist, whereas members of aircrews (in the RAAF or the Fleet Air Arm) may be shot down over enemy territory and will certainly be captured.
unless they can take successful evasion or escape action; and the same conditions would apply to Naval crews whose ships are sunk in enemy waters.

In the light of this difference, it is for consideration whether it would be practicable, or indeed whether it is necessary, to adopt different codes of behaviour to meet different situations. The difficulty of arriving at a joint service decision on this topic was indicated by the American experience. As a consequence of its PW study, the U.S. Army advocated giving to the enemy no information other than name, rank, serial number and date of birth. 'The Army's stand precipitated a lengthy controversy in the Pentagon...it can be said that the Air Force questioned the wisdom and practicality of the Army position, which was more or less supported by the other services'. Finally, to resolve the dispute the Secretary of Defence's Advisory Committee on Prisoners of War was set up. It produced the 'Code of Conduct' which will be discussed later.

It would seem reasonable to conclude that, whilst the general attitude towards capture and consequently the training in relation to it may vary for each of the services, the position after capture is exactly the same for everyone, and therefore any difference of behaviour would be quite out of the question. If prisoners of the various services are held captive together, different codes of behaviour would undoubtedly lead to a loss of morale and unity such as occurred in Korea vis-à-vis the different nations represented there. The need is recognised, however, for special briefing of particular categories of servicemen eg. Commandos, SAS and certain aircrew.

Having considered the various arguments presented, I have concluded that it is not possible to recommend any relaxation of the present rule that only number, rank, name and date of birth may be divulged by prisoners of war. The following three considerations have influenced this position:

- To offer any latitude in this matter to PW would inevitably lead to wholesale release of information of all sorts to the enemy; once a prisoner departs from the rule and starts talking at all it is most difficult to stop.
- The conviction that to allow PW to talk on 'harmless' matters would avail them little.
The present rule accords with the GCPW which has been ratified by the USSR and China amongst many others; any official intimation by Australia that the rule was to be relaxed might be an indication to our potential enemies that we did not expect them to comply with the Convention.

It is appreciated that in practice, when faced with enemy forms of duress, many PW will be unable to carry out the present rule. It is considered that instructions given to servicemen should, while emphasizing the principle of number, rank, name and date of birth only, recognize the possibility that under extreme duress a PW may be made to talk; that it will be for repatriated prisoners to justify, by proving duress, any information they may have given the enemy; and that a particularly serious view will be taken in the following cases:

- where any military information is divulged;
- where any information is given which would incriminate or identify a fellow-PW; and
- where anything is done which would weaken the allied cause, such as propaganda activities on behalf of the enemy.

Should the above views be acceptable, they would appear to reinforce in unambiguous terms the legal position of a PW contained in Sections 4, 5 and 6 of the Army Act, particularly Section 4 (5) which provides that the following is an offence for a person subject to military law: 'Having been made a prisoner of war, voluntarily serves with or voluntarily aids the enemy'. (Italics by the author.)

It is suggested that instruction on the foregoing lines should be incorporated in Chapter 2 'Code of Conduct' of the military training pamphlet 'Survival, 1969'. Such instruction would not be construed as an invitation to divulge information to the enemy, but would indicate in a simple way those types of information it is particularly desirable to withhold.

So much for a policy on oral interrogation. Can there be a different policy applicable to the completion of questionnaires? The British and American studies of PW conduct in Korea, and statements by returning PW from Vietnam, all emphasize the great difficulty of a complete refusal to fill in these questionnaires. It would seem illogical and dangerous to apply in this context any different rules from those outlined for oral interrogation. If this were done, the enemy would not be slow to realise that he should concentrate on written, as opposed to oral, questioning and that thereby he would obtain a large proportion of the information he required. Furthermore, though written questioning may at first sight appear to offer the PW a greater chance of premeditation and deceit, it is in fact in many ways a more dangerous form of interrogation than oral questioning. By forcing the PW to write a general essay about himself, the interrogator can discover a great deal of the area of professional knowledge of the prisoner, and thus greatly simplify the 'Selection' problem. Again, repeated questionnaires make a sustained course of deceit almost impossible.

Finally, what policy should be advocated regarding indoctrination? The fundamental difference between interrogation and indoctrination was referred to earlier in the first paragraph of the section dealing with ‘Methods of Interrogation and Indoctrination'; indeed many of the techniques used in these two processes are identical.

The purpose of interrogation is to elicit information, for whatever purpose that information is subsequently required. The purpose of indoctrination is to win the allegiance of the PW away from his own country and attach it to the enemy cause. This latter purpose can be achieved through a variety of means, some of which, such as the completion of questionnaires, demand the active collaboration of the prisoner, and others, for example compulsory listening to broadcast propaganda, do not.

It is apparent, therefore, that no simple instruction such as that proposed in the case of interrogation, can be given to servicemen in connexion with indoctrination. The proposed instruction concerning interrogation would apply equally to such aspects of indoctrination as the answering of questions and the filling in of questionnaires, but the more indirect methods of enemy indoctrination can only be countered by such measures as we will discuss in the next section, under the heading ‘Will to Resist’.

Will to Resist

'It has been said that “every man has his breaking point”.' This point varies indivi-
dually and depends on basic personality. There is no general criterion to indicate the limit of the physical and mental hardship that may be endured. 'It was appreciated that stress could be defined only in terms of man's interaction with his environment, and that an event was stressful for an individual only if he perceived it as such' . There are, however, certain factors which can influence this limit; these apply equally to the ability to 'resist' before capture and in captivity.

The morale of the serviceman is his attitude towards his employment, and is reflected in his enthusiasm for his service job and by his readiness to endure the hardship, discomfort and dangers it entails. This attitude is influenced by such short-term factors as the immediate military situation, the quantity and quality of rations, and the administrative efficiency of his unit. These are already well recognised and will not be pursued further.

There are, however, certain morale factors having a long-term influence upon the serviceman; those which, regardless of his immediate surroundings, dispose him favourably towards his employment, sustain him in battle, and maintain his morale after capture, when he finds himself deprived suddenly of other material aids to his well being. These factors we will examine under the headings of individual, medical, administrative and training.

Firstly, individual factors. A most significant aspect of the individual resistance in battle and after capture is stamina and personal toughness, and their contribution to fighting efficiency. Korea would seem to provide the best example of this; of the U.S. prisoners 38 per cent of them — 2,730 out of a total of 7,190 — died in captivity', whereas, 'out of the entire number of Turks that fell into enemy hands, not a single one died in captivity'. It would seem that those who had to 'live hard', either in their normal existence or in training, were much better able to withstand hardship than those who were accustomed to all the material benefits which modern civilization can provide.

Discipline is generally, and rightly, considered in connexion with conduct before capture; it is considered that some attention could profitably be given to this subject in relation to conduct after capture.

It is desirable that all servicemen realise that, if made a PW, it remains their duty to continue to resist the enemy, that the disciplinary codes of the services still apply to them, and that any infringements, which they are shown to have committed, may have to be justified on return from captivity. It is believed that the positive side of these instructions (i.e. the duty to resist) should be emphasised rather than the negative aspect of punishment.

As far as practicable, the chain of command should be maintained in PW camps; under GCPW, officers and other rank prisoners may be segregated. It is important that officers should clearly understand that they take all their orders through their own senior prisoner. Other ranks, on the other hand, should realise that, though — in accordance with the GCPW — they may elect individuals to represent them before their captors, the Protecting Power and the International Committee of the Red Cross, they should still be guided by, and must obey the lawful commands of their own superiors. Where their WOs and NCOs are not segregated, they should normally be appointed as their elected representatives.

A third aspect in bolstering individual resistance is belief in the cause for which the man is fighting. One expert states: 'However valuable his presence in Vietnam may be in fostering international alliance, it is hard for the individual Australian soldier to accept that giving his life in combat may be merely an act of political symbolism with little or no practical military value'. Particularly in these times of political change, when committed to battle with possibly a National Service element in one's forces, it is important to know why we fight, and to have a measure of the nation's support; this support may not be as essential as the mass media would lead us to believe: 'Both in the subjective view of combat performance and in the crudely objective measures of psychiatric casualties and disciplinary actions, antiwar sentiment in the United States appears to have had little effect upon the motivational level of the troops in the field'.

Of course, it is important that action be taken to make the servicemen more conscious of the evils of the creed of our potential enemies. It is felt that such instruction should
be given by experts who have sufficient back­
ground knowledge to deal with dialectical
argument.

On a broader front, whether the services
can co-ordinate with other national institutions
to provide a better understanding of national
ideals, as advocated by the U.S. Secretary of
Defense's Advisory Committee on Prisoners
of War, is questionable, laudable though it
may be. As one commentator has stated:
'The Army must take the recruit and mold
him into a soldier. It is extremely difficult to
make up for lack of preservice training, educa­
tion, and character building. It is expecting
too much of the services to assume the obliga­
tions of civilian institutions or to venture far
into their domain'.

A fourth element in building up individual
resistance is some knowledge of what to expect
and do. This view is supported by expert
psychiatric evidence: 'Lazarus (1966) ... also
indicates that as the inherent ambiguity of a
situation decreases as a result of learning and
experience, an individual's ability to cope with
that environment is enhanced'.

Under Article 127 of GCPW there is an
obligation on all contracting parties to include
the study of the Convention and its principles
in programmes of military instruction. An
eminent lawyer in a lecture to the Royal United
Service Institution maintains: 'The lower level
of discharge of this obligation is to issue
instructions to the armed forces that comply
with that law. The intermediate level is to
issue official manuals that give guidance and
not merely orders to members of the armed
forces. The higher level, and I suggest the one
that will in future be found in international
conventions, is to give systematic instruction,
aided by modern technical devices of teaching,
to all members of the armed forces, parti­
cularly at all Service training establishments,
staff and cadet colleges ...'.

It is open for debate whether the provisions
of Military Board Instruction 114-1, and their
application in training programmes, are really
adequate. Certainly, Colonel Draper's lecture
is brim-full of fresh ideas for anyone involved
in the training process.

Thus, some instruction on what to expect
and do must be given, and provided it is pro­
perly given it need be in no way defeatist.

Generally, the serviceman should know that
he may be treated:
- strictly in accordance with the Geneva
Convention;
- much better than he may anticipate; or
- with severity and torture.

The last point should not be stressed but the
man should be warned that if he is treated
more leniently than he expects, he must not
be misled and must be more than ever on his
guard against giving away information.

Another aspect in the cumulative effect of
individual resistance is religion. It is generally
agreed that a firm religious faith, to those that
possess it, is the most important single factor
that will sustain a man in battle or as a PW.
Obviously, this subject must be approached
with great caution as any form of compulsion
in this matter may create resentment and
opposition. The principles stated in Military
Board Instructions 240-1 'Character Training'
and 240-2 'Religion in the Army — Policy',
appear to satisfy the requirement; whether they
are implemented to their capacity is up to
commanders and their staffs.

Finally, what of esprit-de-corps and com­
radeship, or in the Australian idiom 'mate­
ship'? This aspect needs no stressing as it is
well recognized that they are two of the prime
factors in maintaining morale; the requirement
to foster group loyalty is paramount: 'There
was, however, massive concern with the micro­
cosm of the patient's own unit and its prob­
lems, pointing up once again the significance
of the small group and its tremendous influence
on human behaviour and tolerance for stress'.

In my opinion, it is this strong Australian
quality of 'mateship' which makes a U.S.-type
of formal, legal 'Code of Conduct' so unneces­
sary, and I would hope that it would never
be introduced into our services. The learning
by rote of six principles to guide us in a pro­
spective and actual PW situation is foreign to
the Australian personality; our heritage will
ensure we look after each other when the going
is tough.

In summary, we can say that a man's indivi­
dual resistance in battle and after capture is a
product of: stamina and personal toughness;
sense of discipline; belief in a cause; what to
expect and do; religious belief; and espir-de-
corps. There is a heavy responsibility on the service to inculcate these attributes into the servicemen.

It would seem appropriate to now consider a few medical aspects of the ‘will to resist’. Let us first place the subject in its proper perspective by quoting the independent opinion of a U.S. psychiatrist based upon our Vietnam experience: ‘Whereas character and behaviour disorder represent the largest single diagnostic category among American psychiatric casualties, this diagnosis is made rarely on Australians’.

Comment has already been made on the need for group loyalty with regard to individual resistance. This feeling seems to limit the demoralising effect of living in ‘fantasy’, and serves to bridge the gap between the limited existence in a prison camp and the normal ideas and ways of life in happier days. One medical opinion states: ‘The experience of anomie and its attendant anxiety evokes in the men a boundless longing for home’.

It is about time that the much publicised technique of ‘brain washing’ was brought out into the open in our various training manuals. There is nothing sinister in it as the following description affirms: ‘From a psychological point of view, it has been called a “recurring cycle of fear, relief, and new fear”. Prisoners were kept in fear of death, torture, or starvation while all their norms of group associations and beliefs were systematically distorted by controlling information they received. The conditions of stress and deprivation wore away the physical stamina and mental orientation until the captors’ description of “truth” were accepted’.

**Prisoners of War**

**Rules of Conduct for Squad Leaders**

1. Obey all orders and regulations and convey them to your men.

2. Take charge of the daily welfare and conditions of your men and ensure that they carry out all regulations and orders.

3. The interests of the people may not be harmed in any way. Taking any of their possessions is prohibited.

4. Observe the air-raid regulations and preserve order among your men during raids. Lights are not permitted at night.

5. You are responsible for conveying the opinions of your men to us.

The reasons for these rules are obvious. Breaches of them will be punished.

*The Korean People's Army*

*The Chinese People's Volunteers*
A lack of sleep is a usual feature of the Communist interrogation technique. Service­
men should be told that this procedure has no long-term harmful physical or mental effects.
There would appear to be the need for a statement on the use of drugs for the purpose
of extracting information. The author is no expert on the subject, but he was unable to
discover any drugs which will force those to disclose information who do not wish to do so.
It is well established in medical practice that certain drugs will lessen a person’s inhibitions,
so that he talks more freely about subjects which he would not otherwise be able to dis­
cuss. There is no evidence that under drugs such individuals disclose material which they
are determined for ethical reasons not to divulge.

Finally, a knowledge of first-aid, hygiene and edible foods will greatly enhance the ‘will
to resist’. These aspects are well covered in the pamphlet ‘Survival, 1969’.
The proposals discussed so far are all concerned with direct assistance to the individual
to sustain his resistance in battle and after capture. There are also a number of adminis­
trative and security measures which, if put into effect in peace and war, would make it
more difficult for the enemy to operate his interrogation system and would help the PW
in his attempts to resist it.
Let us consider security first. Reference has been made earlier to the process of ‘research,
selection and extraction’. Censorship in time of peace is obviously out of the question, but
everything that can be done to restrict military knowledge on the status and function of per­
sonnel is worthwhile. In peace, such restrictions would probably be regarded as adminis­
tratively unacceptable, however they can be imposed on the outbreak of war. They would
tend to lessen the enemy’s ‘research and selection’ capability.
The ‘extraction’ process is somewhat more difficult. The serviceman should be made
aware of the use of informer networks and agents, and the importance of internal security
within PW camps.
There are a number of special categories within each service who run more than usually
serious risks of capture and from whom the enemy would expect to obtain valuable
information. Although such men would no doubt resist to the limit of their endurance,
special steps should be taken to protect them and the information they may have.
It may be necessary, therefore, for such categories to be closely briefed as to their conduct if captured and to provide them with a ‘cover story’ designed to conceal their true
identity, and thus enable them to escape selection for detailed interrogation.

Another element in supporting our PW is the need to maintain contact with them. With
our potential enemies this is easier said than done as indicated by the following quotation:
‘Hanoi’s refusal to render a true accounting of the prisoners it holds is only one aspect of
North Vietnam’s total disregard of the letter or the spirit of the 1949 Geneva Convention
Relative to the Treatment of Prisoners of War, which it signed on 28 June 1957. The North
Vietnamese have not even revealed the location of the prison camps, let alone permitted
neutral inspection, and representatives of the International Committee of the Red Cross
(ICRC) haven’t been allowed to set foot in the country’.35
Nevertheless, we must employ all means, overt and covert, to keep our personnel in
enemy hands in touch with developments so that they may be supported in their efforts to
avoid indoctrination and to resist the enemy’s efforts at subjugation. This was the major
reason for the U.S. raid by 50 Green Beret volunteers on Sontay PW Camp outside Hanoi
in November 1970.
An area not to be overlooked is freedom from home worries. In any future war, the
services should, from the start, take a much keener interest in the families of PW. The
Army’s Family Liaison Organisation, currently being absorbed by the Community Services
Organization, is ideally placed to implement this policy.
Finally, a major area where the services can inject their practical experience into the
moulding of international law is presently with us. The Geneva Conventions of 1949 are in
the process of being up-dated, initially through the initiative of the ICRC which is holding a
series of conferences of governmental experts. The deficiencies of the Conventions are well
recognized, particularly in relation to the
changing nature of warfare, viz, non-international armed conflicts and revolutionary warfare. These and other aspects will be discussed during 1976 at the third session of a Diplomatic Conference.

The final, and probably, the most important aspect of the 'will to resist' is training. One U.S. commentator on our force in Vietnam says: 'However, it appeared particularly important to members of the Australian force that they remain convinced in their own minds that they were the most experienced, most professional, and most competent military unit in the country'.

Let no one decry our high enlistment standards into the services for this is where our initial screening for servicemen with personality defects is put into effect. In order to assist any future PW, the staff of our training units should be made aware that: "Most individuals who are likely to show serious psychological maladjustment within the military will do so during their early period of training, approximately 50% of all psychotic disorders occur during the first year of military service'.

It would be remiss of the author not to attempt to produce an outline of the subjects that might be included in a training programme. The headings are not intended to be exhaustive:

**Phase 1** — Develop initiative and powers of individual resistance:
- Initiative training
- Knowledge of conflicting ideologies of Western and Communist countries
- Religious instruction and leadership training
- Physical training instruction

**Phase 2** — How to evade capture and behaviour as a PW:
- Escape and evasion training
- Legal aspects effecting PW
- Organization and administration of PW camps
- Psychological effects of capture
- Resistance to Communist methods after capture

**Phase 3** — Training before going to, and in, a theatre of war:
- War aims
- Knowledge of how to live off the country
- Emergency first-aid
- Emergency hygiene

The frequency of the above training might be:

**Phase 1** — throughout a serviceman's life, but only to a limited extent during basic training
**Phase 2** — at intervals during the man's period of trained service.
**Phase 3** — before going to, and in, a theatre of war.

Of course, the question will arise how much time can we afford for this training in the services. The following reply to a similar question to Colonel Draper can only be offered: 'Our two Soviet Union colleagues have left (the RUSI) but they said that they have this instruction ad nauseam in their country. If a State such as the Soviet Union can find the time, I cannot think of any excuse why we cannot, but there are a number of other things to be done. It is a question of a balancing of the programme, an excellent exercise for staff officers to apply their staff training to work out how it should be done.'

**Conclusion**

I believe whole-heartedly in education and training in preparing a man to get a job done, whether it be offensive or defensive. The individual should be trained and educated to be mentally and physically prepared to the maximum degree to withstand the unnatural experiences he is likely to face in captivity.

The principle of giving the enemy nothing but number, rank, name and date of birth is still valid, however the instruction the serviceman receives must recognise the possibility that under extreme duress the PW may be made to talk, and he must realise that he may be required to justify, by proving duress, any information he may have given the enemy.

Even with all these things, however, we cannot assume that every fighting man will be completely prepared for his responsibilities as a prisoner. History is not on our side, and neither is human nature when we consider the past conduct of prisoners of war.
Notes


2 *Time*, 'POWs — At Last the Story Can be Told', 9 April 1973, p. 39.


5 Rowe, Major James N., 'How I Survived', *Army Digest*, May 1971, p. 4.


12 *Time*, 'POWs At Last the Story Can be Told', 9 April 1973, p. 39.

13 Kinkead, *In Every War But One*, p. 191.

CURRENT DEFENCE READINGS

Readers may find the following articles of interest.

And the clocks were striking thirteen: the termination of war. *Policy Sciences*, June 1976: 225-243.


Technical


THE tensions preceding the 1914-18 War came to a head on July 28, 1914, when Austria-Hungary declared war on Serbia. On August 1 Germany announced that it was at war with Russia, marched into Luxembourg on the same day, and declared war on France on the 3rd. The following day, German military forces invaded Belgium which Great Britain had pledged to defend. The British Government honoured the obligation by declaring war on Germany at 11 p.m. English time, on August 4, 1914 — and so began the 1914-18 War for the British Empire.

It was a time when the Dominions acted together as a mutual defence group, and most Australians automatically considered themselves at war with Germany when the British declaration was announced. Within the first few weeks of hostilities an Australian naval and military expeditionary force attacked, and subsequently captured, German New Guinea and the adjacent German colonies. Then came the dramatic news that the light cruiser HMAS Sydney had sunk* the German raider SMS Emden off the Cocos Islands on November 9.

In the interim thousands of Australians had flocked to join a specially enlisted Australian Imperial Force for volunteer service overseas and, by December 1914, this force was training in Egypt. The epic of Gallipoli had yet to eventuate but, already, the Australian soldier and sailor were establishing their fighting prowess. In contrast, the Australian airman was still an unknown quality as 1914 came to a close. Early in the new year, however, Australia’s embryo flying corps was to be called upon to enter the arena of aerial warfare — and the call was to come from the most unexpected quarter.

Approval for the formation of an Australian Flying Corps, and Flying School, had first been announced by the Minister for Defence, Senator E. D. Millen, on September 20, 1912. This approval was promulgated in Military Order 570 of 1912, on October 22, but the first two military aircraft of the Central Flying School at Point Cook, Victoria, did not take to the air until March 1, 1914. In the event one of these machines, the British-built Deperdussin Type A monoplane CFS 4, with a 35 hp Anzani engine, was destroyed eight days later in a flying accident. Consequently, when the first flying course started on August 17 the two instructors, Lieutenant H. A. Petre and E. Harrison, had only one elementary-type flying machine available for training the first four pupils — Captain T. W. White, and Lieutenants R. Williams, G. P. Merz, and D. T. W. Manwell. This sole aircraft was the Bristol Boxkite biplane, CFS 3, with a 50 hp Gnome rotary engine, which had been the first military aircraft to fly in Australia. The school’s other three machines comprised the non-flying Deperdussin Type A monoplane, CFS 5, with a 35 hp Anzani engine, suitable only for taxiing practice, and two Bristol-built Royal Aircraft Factory B.E. 2a biplanes, CFS 1 and CFS 2, each with a 70 hp Renault engine, which were considered far too advanced for the trainees.

The first flying course lasted for three months, and when the four trainees graduated as pilots in November the Army did not know what to do with them. As Air Marshal Sir Richard Williams stated in Aircraft, April, 1971, “the Training School was not established because of the war, but because of a much earlier decision to develop a Flying Corps within the

* It has since been pointed out to me that I should have written “destroyed” since Emden was beached as a wreck, therefore technically she did not sink. — Author.
Commonwealth Military Forces. When the war began that development had not reached the stage of actual formation of units . . .", and so the fledgling pilots were sent back to their previous ground duties. In his 1928 book, *Guests Of The Unspeakable*, Lieutenant-Colonel T. W. White recalled also that “the great part aviation was to play in the war was not yet foreseen. For though we had developed pilot wings on our chests after completing the tests required by the Royal Aero Club, we could find no active service openings where we might be usefully employed, as our Government at that time had no intention of sending a flying unit overseas”.

Notwithstanding Sir Thomas White’s recollections the government did, in fact, despatch a flying unit overseas shortly after the conclusion of the first flying course. On November 30 the first Australian Aviation Unit, comprising Lieutenants Harrison and Merz, and several mechanics, left Point Cook for active service in German New Guinea, and New Britain. The AAU sailed from Sydney, during December in HMAS *Una*, accompanied by two aircraft in crates — one of the B.E.2as, and the Maurice Farman seaplane, CFS 7, with a 70 hp Renault engine, which had been presented to Central Flying School by the patriotic Sydney businessman, Lebbeus Hordern, soon after the outbreak of hostilities. By the time the unit reached the fighting zone, however, the campaign was over and the AAU returned to Australia early in 1915 with the aircraft still in their shipping crates. Although disappointed because they had not gone into action, the men of the flying corps were about to have their morale boosted by a request to fight in the country wherein lay the cradle of mankind — Mesopotamia.

As Monday, February 8, 1915, progressed the incoming signal traffic for the Australian Government was normal and nothing untoward was being received — that is, until a cable arrived from the Viceroy of India, Viscount Hardinge. “Could you provide any trained aviators for service in the Tigris Valley? All our trained officers are in Egypt and England . . .” the message began, and went on to request mechanics, flying machines, and motor transport. A reply was despatched on the 10th stating that the Commonwealth could furnish some officers, mechanics, and transport, but was unable to provide any aeroplanes.

As further cables were exchanged it transpired that when Turkey declared war on Britain on October 31, 1914, the oil wells of the Persian Gulf were placed in jeopardy. Foreseeing this danger the British Government arranged for a force of brigade strength to be sent from India to protect the area, and secure the oil on which depended the very conduct of the war in Europe. This army element known as the Indian Expeditionary Force D, landed at Bahrein Island from Bombay on October 23. By November 14 two more brigades had arrived from India, bringing the force up to divisional strength. The next day an attack was launched against Basra, the principal Mesopotamian port. The port was captured on November 21, and the Indian division then advanced to Al Qurna at the junction of the Tigris and Euphrates, the two rivers that embraced Mesopotamia; for, of course, Mesopotamia is the Greek word for “between the rivers”.

Qurna fell on December 9, and, with the advent of the spring floods, the Indian Army remained in the dirty and foul smelling town until April 1915. It was during this period that Australia was asked to support the Mesopotamian campaign.

The Australian Flying Corps could only provide enough pilots, mechanics, and transport to equip half a flight and, consequently, the unit was named the Half Flight. Petre, who had been promoted to a captain, was placed in command and he sailed from Melbourne for Bombay on April 14, 1915, as advance officer. Captain White then assumed temporary command of the Half Flight, and the other two officers were Lieutenants Merz and W. H. Treloar; the latter was an Australian Military Forces officer who learnt to fly in England and gained his pilot’s certificate No. 835 on July 9, 1914, flying a Bristol Boxkite at Brooklands, before returning to Australia. On April 20 White, Treloar, and 37 other ranks sailed for Bombay in RMS *Morea*, and four other ranks accompanied the motor transport aboard SS *Ulysses* on May 3. The horses and mule teams, with 30 spare mules “in case of difficulty with mechanical transport in a sandy country” sailed later in another ship. From Bombay the main part of the unit sailed
in SS Bankura and arrived at Basra on May 26. Merz had been detained on instructional duties at Point Cook, and rejoined the Half Flight on June 13 at Basra.

It is not generally known that the Australian Government prepared a Second Half Flight for service in Mesopotamia. When the original Half Flight left Australia, a decision was taken to anticipate a further request from India for reinforcements. Four pilots led by Lieutenant R. Williams, plus an appropriate number of mechanics, were trained and held in reserve at Point Cook “prior to embarkation for service in India”. During this period the unit already in Mesopotamia was referred to, retrospectively, as the First Half Flight. In the even the Second Half Flight never deployed, and was disbanded at the end of 1915.
At Basra the Half Flight joined up with Captains P. W. L. Broke-Smith and H. L. Reilly of the Indian Flying Corps, Lieutenant W. W. A. Burn, a New Zealander who had been born in Australia, and a number of British and Indian mechanics. This combined force comprised a full flight which became known as the Mesopotamia Flight, Indian Flying Corps. The Half Flight personnel were gazetted to the Indian Army, but they still retained their Australian identity.

An aircraft park was established at Basra which contained two Maurice Farman MF11 Shorthorns purchased from funds provided by the Rajah of Gwalior, and a Maurice Farman MF7 Longhorn transhipped from Egypt where it had seen much service. These three pusher biplanes were subsequently given Indian Flying Corps serial numbers, the Shorthorns becoming IFC 1 and IFC 7, and the Longhorn IFC 2.

The provision of such out-dated aircraft (the Longhorn had first flown in 1912, the Shorthorn in 1913, and by 1915 both types were mainly relegated to the training role) was indicative of the deplorable planning and administration associated with the first Tigris campaign, and which affected every department of the army. The War Office later appointed a Royal Commission on Mesopotamia which castigated severely the operations in 1915-16, including the provision of aircraft. The machines were primitive and unfit for any sort of war service, least of all for war in the conditions and climate of Mesopotamia. Their numbers were insufficient, they were supplied without spares, and some had already been withdrawn as useless from other war areas. The engines were a constant source of trouble and anxiety and, together with the fragile wooden airframes, they were entirely unsuited to the hot, humid, dusty, and windy conditions in Mesopotamia. The aircraft were not fitted with machine-guns, and the bomb-racks supplied from England were either the wrong types, or were unserviceable — some bombs had to be dropped through a hole cut in the cockpit floor. At first, 2 lb. infantry bombs were thrown out by hand, and when the 20 lb. aerial bombs ultimately arrived many had been damaged in transit. The sole service most of the aircraft could perform was reconnaissance and even this task was dependent upon whether or not the fierce, dust-laden northerly Shamal seasonal wind was blowing. In the humid conditions the maximum speed of the antiquated aircraft was about 50 mph and, as an official IEF report stated, "When the Shamal blows a machine of the Maurice Farman type moves backwards when flying at 600 to 1000 feet." This then was the type of aircraft with which the AFC first went to war.

Towards the end of May, 1915, the IEF became an army corps under the command of General Sir John E. Nixon, and was positioned at Qurna for an advance up the Tigris River to Amara. Major General C. V. F. Townshend was appointed field commander at Qurna, and he arranged for Shorthorns IFC 1 and 7 to use a landing-ground at Sherish just south of Qurna.

The first air reconnaissances were made early on May 31, prior to the opening attack on the Turkish positions north of Qurna. Petre with Burn as an observer, and Reilly with Broke-Smith, both brought in valuable intelligence. The first appearance of aircraft supporting the IEF was greeted enthusiastically by the attacking troops as they toiled through the heat. The aircraft flew to Sakrika, about 12 miles to the north and reported on enemy camps, positions, and the amount of river transport. All the Turkish advance positions were captured on the 31st and the air arm received due credit for its participation in the victories. In the evening the two Shorthorns returned to Basra carrying Townshend’s reports and despatches, which were then cabled to India.

The next morning, June 1, White and Reilly flew one of the Shorthorns, fitted with dual controls, from Basra to Qurna against the Shamal northerly wind. It took the aircraft two hours to cover the 60-odd miles. Continuing on to Abu Aran, the airmen found that the enemy troops were in full retreat. With a strong tail wind now behind them, White and Reilly hurried south with the good news. On the way they dropped three small bombs which caused confusion among the conglomeration of fleeing enemy vessels on the Tigris; one launch, full of Turkish troops, construed the bombing as a warning to surrender and obligingly ran aground to await capture by the oncoming British soldiers. Before returning to base White and Reilly flew over Townshend’s headquarters in the
sloop HMS Espiegle and dropped a message giving details of the retreat, whereupon Townshend immediately took up the pursuit.

Further air reconnaissances were carried out on June 2-3 from the advance landing-ground at Abu Aran to keep in touch with the retreating enemy, and messages were again dropped in the river for the pursuing flotilla. White flags were observed flying over Amara, and Townshend accepted the town's surrender later in the day. During the night telegraphic communications between Amara and Basra broke down, so urgent despatches and maps were flown from Basra in a Shorthorn on June 4. The next day the airmen established that there were no Turkish troops within 25 miles of Amara.

The flying corps detachment moved to Amara on June 9 and, on the 14th, an important reconnaissance flight was made to Kut al Imara, 123 miles to the north-west. To complete this long flight, Reilly and Burn used an advanced refuelling base at Ali Gharbi, 60 miles from Amara. The Shamal was blowing and visibility was so poor that Reilly, who was now a major in charge of the Mesopotamia Flight, had to fly close to the ground to keep contact. Under the circumstances the airmen compiled a good report and mapped the Turkish dispositions at Es Sinn and Kut. In fact, this original map was amplified by subsequent reconnaissance flights and was used by Townshend when he planned his attack on Es Sinn in September.

After the fall of Amara General Nixon planned to advance along the Euphrates to Nasiriya, and an air reconnaissance was made of the Hammar Lake district on June 19. The Shorthorn flown by Petre and Burn developed engine trouble on the return flight, and the same thing happened to the second Shorthorn which Reilly and Treloar flew to reconnoitre Nasiriya on the 20th. Thus the two aircraft allotted to Major General G. F. Gorringe, for his advance along the Euphrates, were withdrawn and transported to Basra for engine repairs. The aircraft situation became so desperate that General Nixon submitted an urgent request to India for replacement machines.

While the Shorthorns were being repaired at Basra, it was decided to convert IFC 7 into a seaplane for operations on the flooded rivers — by a strange coincidence the Maurice Farman seaplane at Point Cook, CFS 7, was being converted to a landplane about this same time. In the event, three Short 827 seaplanes, Nos 822, 825, and 827, arrived in Basra at the beginning of September, and the Shorthorn IFC 7 remained in service as a landplane. The Short seaplanes were transferred to Mesopotamia from Rufiji Delta in East Africa, where the German cruiser SMS Königsberg had been put out of action by a naval force which included the Australian light cruiser HMAS Pioneer.

Meanwhile, the call for replacement aircraft resulted in two Caudron G.111 sesquiplanes being shipped into Basra on July 4. These machines were initially numbered C.1 and C.2, but later received the serials IFC 3 and IFC 4. In the interim, Gorringe had captured the Suq ash Shuyukh position on the Euphrates on July 6, and called for the two Caudrons to be sent to Asani to reconnoitre the Nasiriya area.

Merz and Reilly each flew a Caudron from Basra, and reconnaissance flights were made on the 21st and 22nd. The Turkish trenches were sketched from the air, and the general positions were plotted on a map. These reports gave Gorringe his first comprehensive idea of the enemy dispositions and the local topography. On July 22-23, one of the Caudrons directed artillery fire on to the Turkish entrenchments, and an attack was launched on the 24th. The Turks retreated in the evening and Nasiriya was occupied on July 25. The battle of Nasiriya had been fought in a shade temperature of 113 degrees with high humidity and, on the first flight towards the town, Reilly's Caudron developed engine trouble. He had to land in the flood waters near Suq ash Shuyukh where, fortunately, a
small garrison helped to save the aircraft. The 80 hp Gnome rotary engine of the Caudron was difficult to service in the high temperatures and the hot, dust-laden winds affected the air-cooling.

On July 30, Reilly, with a sergeant mechanic in Caudron IFC 3, and Merz with Burn in Caudron IFC 4, took off to fly to Basra in company with each other in case of engine failure. They unintentionally became parted soon after leaving Nasiriya and, as anticipated, Reilly was forced down with a faulty engine half way to Basra. Fortunately, the Arabs in the area proved friendly and Reilly and his mechanic were able to rectify the fault and fly on to Basra.

Meanwhile Merz and Burn had also been forced to land because of engine trouble about 20 miles from Abu Salibiq. According to reports obtained later from friendly Arabs, Merz and Burn were attacked by a large force of well-armed Zobaab tribesmen. Unable to defend their Caudron, which had no machine-guns, the airmen used their revolvers in a running fight towards Abu Salibiq. They killed one and wounded five of their adversaries, and had travelled about five miles when one of them was wounded. His companion refused to escape alone, and stood by his fallen comrade awaiting the Arabs. Together they died fighting. Merz and Burn were never found. Reilly sighted what was left of the Caudron a few days later while on a reconnaissance flight. The aircraft had been hacked to pieces by the infuriated Arabs. A punitive expedition, which White accompanied on behalf of the AFC, searched the villages where the Arab murderers were believed to be domiciled — but the culprits had fled. By way of vengeance the houses of the Sheikh were burned down. Merz and Burn, an Australian and an Australian-born New Zealander, made the supreme sacrifice in a far-away country, as many of their Anzac compatriots were also doing at Gallipoli. Merz had qualified as a medical practitioner before he joined the AFC, and was only 23 when he was killed in Mesopotamia. There, in the limitless sands of the Arabian desert, Merz became the first Australian military pilot to give his life for his country. The date was July 30, 1915.

In August the Mesopotamia Flight, IFC, became a squadron of the Royal Flying Corps — No. 30 Squadron, RFC, which had formed originally at Ismailia, Egypt, on March 24, 1915. On August 5 all officers of the air unit in Mesopotamia were gazetted to the RFC but, again, the AFC officers retained their Australian identity. The squadron comprised A and B Flights in Mesopotamia, and C Flight in Ismailia; the latter flight transferred to Mesopotamia at the end of October.

August also saw the arrival in Basra of four Martinsyde S.1 single seat biplane scouts. The three Maurice Farmans and the remaining Caudron formed the equipment of A Flight, and the four Martinsydes went to B Flight. The new scouts carried RFC serials within the block 4229-4250, and three known numbers were 4243, 4244, and 4250. For identification in Mesopotamia the S.1s were also originally numbered MH 5, 6, 8, and 9, which were later changed to IFC 5, 6, (a Shorthorn was still operating as IFC 7), 8 and 9. It is not known for certain whether or not the IFC designation was painted on to the Martinsydes and subsequent aircraft. In fact, photographs taken at the time showed that the “I” had been deleted from the Maurice Farmans and Caudrons, leaving only FC and the particular number. Presumably this was because the squadron was by now RFC, rather than an IFC unit.

Captain Petre tested the first Martinsyde on August 29 and found that the S.1 suffered the same disadvantage as the Caudron, in that both...
aircraft were equipped with the temperamental 80 hp Gnome rotary engine. The S.1 took 23 minutes to climb to 7000 feet, where its speed was only 50 mph, and consumed 25 gallons of petrol on the climb.

Early in September plans were made to attack and occupy Kut al Imara, and Major-General Townshend concentrated his forces at Ali Gharbi. An advance element of No. 30 Squadron flew from Amara to Ali Gharbi on September 7 with Shorthorn IFC 1, Caudron IFC 3, and Martinsydes IFC 5, 6. On the 11th the Shorthorn was destroyed in a bad landing by a British pilot and similar misfortune followed with two of the other machines. On September 13 Martinsyde IFC 5 was damaged severely while being tested in a high wind and was never used again. Three days later Lieutenant Treloar was flying the Caudron, with Captain B. S. Atkins of the Indian Army as observer, when engine trouble developed over Es Sinn and the aircraft was forced to land within 100 yards of the Turkish trenches. Treloar and Atkins were engaged immediately in a hand-to-hand fight with Arabs who would have killed them but for the intervention of the Turkish troops. They were then stripped and taken before the Turkish commander who made several unsuccessful attempts to interrogate them, and later provided them with coffee—and Melbourne-made biscuits! Treloar and Atkins were then sent to Baghdad on a river steamer and they remained in captivity until the end of the war. The Caudron IFC 3 also accompanied them to Baghdad and was put on display in the city. With Merz killed and Treloar captured, the number of pilots sent from Australia was reduced by 50%.

Martinsyde IFC 6 was the only machine now left with Townshend's division, so Petre and White were ordered up from Basra with all available aircraft. Two barges were already proceeding up the Tigris, one with two Short seaplanes on board, and the other with the third seaplane and Martinsyde IFC 9 in a case. White flew Shorthorn IFC 7 from Basra up to the first seaplane barge, and Petre followed with Martinsyde IFC 8. Coming in to land at Sanniyat, Petre touched down outside the prepared landing-ground and damaged the scout on the rough terrain. The Shorthorn IFC 7 eventually arrived by barge, with the seaplanes, at Sanniyat and joined Martinsyde IFC 6 for the attack on Es Sinn; the seaplanes working from the river were attached to the artillery.

Townshend attacked Es Sinn and Kut on the 27-28th and, by the following evening, both towns were captured. Throughout the battle Reilly in Martinsyde IFC 6 and an RFC pilot, Lieutenant E. J. Fulton, in Shorthorn IFC 7 assisted greatly, and maintained communication contact with the rapidly advancing troops. The two machines were used also to bomb the retiring Turks. By September 30 a landing-ground had been prepared at Kut, and Martinsydes IFC 6 and 8 (now repaired), together with Shorthorn IFC 7, flew into the town. Meanwhile the fleeing Turks were still being pursued by Townshend's division and, by October 2, the British were at Azizia, halfway between Kut and Baghdad. On that day Petre through no fault of his own, again damaged Martinsyde IFC 8 while attempting to land on the rough ground at Azizia.

On October 6 Petre made the first reconnaissance flight over Baghdad in Martinsyde IFC 6, and reported that he found the town almost empty of troops. The sight of the first British warplane over the city had an effect out of all proportion, and its appearance alarmed and panicked the civilian population. Seven days later an aeroplane-lighter arrived
at Kut from Amara with the Longhorn IFC 2; this was the oldest aircraft in Mesopotamia and it had spent most of its time in the Aircraft Park at Basra undergoing repairs. On the 14th White and Broke-Smith took off in IFC 2 to reconnoitre the Shatt al Hai, which they found to be a chain of waterholes rather than a river.

In the interim two of the Short 827 seaplanes had been converted to landplanes and one of these aircraft located the camp of a hostile Arab tribe at Badra, near the Persian border, on October 18. Four days later White in the Longhorn, Fulton in the Shorthorn, and Reilly in Martinsyde IFC 6 bombed the camp with two 20 lb., three 30 lb., and sixteen 2 lb. bombs. The raid was so successful that the next day, the 23rd, the Sheikh of the tribe sent in a message to ask if he could tender his submission.

In preparation for the forthcoming attack against Ctesiphon, White in the Longhorn and Fulton in the Shorthorn carried out daily reconnaissance flights from Azizya, each flight occupying from two to two-and-a-half hours. On one such mission White took along as an observer a cavalry officer, Captain F. C. C. Yeats-Brown (later author of *Caught By The Turks*, and *Bengal Lancer*, the latter book being made into the successful 1935 Gary Cooper film, *Lives Of A Bengal Lancer*). They were flying over Ctesiphon when, amid puffs of bursting shrapnel, the Renault engine started to misfire and forced White to land in enemy territory at Zeur. Although he could not get airborne again White had sufficient power left in the engine to taxi and, rather than be captured, he decided to drive home — a mere distance of 15 miles! So, with the wind behind him, White rolled and bumped merrily along while Yeats-Brown stood up in the observer’s seat with his rifle at the ready to repel any boarders. They traversed mile after mile of enemy territory, taxiing in and out of sandhills, around ridges and cracked earth, and over camel thorn. Coming up in the rear of an enemy position at Kutiniya, where some 2,000 cavalry and camelry were in camp, White opened up and charged the Shorthorn through the startled troops. The cantankerous engine then picked up and he flew the rest of the way to Azizya. It has been written that “the astonished Turks must have regarded the spluttering, dust-trailing, ungainly contraption as some sort of a dastardly Australian secret weapon.”

On another occasion one of the Short 827 seaplanes flown by Major R. Gordon was airborne with Major-General G. V. Kemball, chief of the General Staff in Mesopotamia, when engine trouble forced the pilot to land between Azizya and Kut. White set out in his
Longhorn to search for the general, and found the seaplane aground near a large Arab camp. As he flew over searching for a place to land the Arabs opened fire and their bullets broke an aileron rib and pierced the propeller. White landed close to the river and ran across with a spare rifle to the general. They both hastened back to the Longhorn, and took off before the Arabs could attack. Gordon was later escorted to safety by an Indian cavalry patrol which had seen the aircraft descend and had gone over to its help.

Reinforcements for No. 30 Squadron reached Basra when four Royal Aircraft Factory B.E.2c biplanes, with 90 hp RAF engines, arrived from England at the end of October; about this time a third Shorthorn was also received, and this aircraft was numbered IFC 10. The remaining Maurice Farman and Martinsydes were pooled together in A Flight, and the B.E.2cs formed B Flight. On November 9 two B.E.2cs were dispatched on towed lighters to Kut where they were erected on arrival. They were then flown to Azizia where one was damaged on landing. The B.E.2cs were allotted the IFC numbers 11, 12, 12A (in lieu of 13), and 14, in addition to their official RFC serials; for example IFC 11 also carried the RFC number 4500.

The preparation for the attack on Ctesiphon included a daring plan to send an aircraft to land outside Baghdad, so that the crew could cut the telegraph wires and isolate the city from the battle-front, Constantinople, and Kifri. Volunteers were called, and White and Yeats-Brown accepted the task knowing that they could not expect to return if adverse winds should spring up. White's trusty Longhorn aircraft was loaded with necklaces of guncotton and extra tins of petrol and oil. It was estimated that the airmen would have to fly, at least, 60 miles each way. They took off at dawn on November 13 and, after an uneventful flight, landed about eight miles from Baghdad in the rear of the Turkish positions at Seleucia — but a wing was damaged when it collided with a telegraph pole at the end of the landing run, making the aircraft useless for further flight. Arabs and Turks immediately attacked the airmen but Yeats-Brown managed to blow up the wires while White kept the enemy at bay with his rifle fire. The second charge shattered wires all over the Longhorn putting an end to any ideas White had of taxiing to safety as he had done at Zeur. White and Yeats-Brown were savagely attacked by the Arabs, and were later taken into custody by the Turks. After the war both wrote books on their years of captivity in Turkey and, of course, the illustrious career of Longhorn IFC 2 came to an end on that fateful day of November 13, 1915.

The battle of Ctesiphon commenced on November 22, the day after Reilly was shot down by gun-fire in Martinsyde IFC 6 while on a vital reconnaissance flight. Only one aircraft and one Australian pilot now remained in A Flight — Shorthorn IFC 7 and Captain Petre. Early in the battle Fulton was brought down by ground fire, over the Turkish lines, in Martinsyde IFC 8 which had been repaired prior to the battle. Petre in the Shorthorn carried out several important reconnaissance flights and was joined by two of the Short converted seaplanes and one of the B.E.2cs. From information brought back after one of Petre's flights, the B.E.2c effectively bombed some 4,000 Turks at a bridge over the Diyala River. But the Turkish troops greatly outnumbered the attacking force and, on Nov-
ember 25, Townshend was forced to retreat first to Lajj, and then to Kut which he reached on December 3.

Meanwhile, by November 30, the other two B.E.2cs and Martinsyde IFC 9 had arrived by barge at Kut; Major S. D. Massy also arrived from Basra on the 28th to take command of No. 30 Squadron. The British forces in Kut, as from early December, settled down to withstand a siege until expected reinforcements arrived from overseas to relieve the town. The seaplane flight left for Basra on December 4, and the remaining two serviceable landplanes — Petre’s Shorthorn IFC 7 and the B.E.2c IFC 11 — were ordered out of Kut on the 6th. The unserviceable aircraft left in the town were two B.E.2cs and the Martinsyde IFC 9. The besieged troops in Kut were bombarded and attacked throughout December, and then the Turkish divisions settled down in the new year to starve the British into surrender.

Early in 1916 the Shorthorn and the B.E.2c were flown to Ali Gharbi to operate with a relieving force, the Tigris Corps, under the command of Lieutenant-General Sir Fenton J. Aylmer. Petre continued to fly whatever aircraft were serviceable and, as from January, four more B.E.2cs were sent to the area. In addition, the Royal Naval Air Service provided two Voisin pusher biplanes, with 140 hp Canton Unne engines, on January 17. Seven other RNAS machines arrived in February and included two steel Henry Farman F.27s also with 140 hp Canton Unne engines, and five Short 225 seaplanes each powered with a 225 hp Sunbeam engine.

February also saw reinforcements arrive from the Dardanelles for the Turkish forces, and the new arrivals included a German Army Air Service unit equipped with Fokker E-type monoplanes. These Eindecker series of single-seat fighters were the first enemy aircraft to be fitted with a synchronised machine-gun firing through the propeller arc. The Fokkers operated from Shumran Bend in support of the Turks, and made their first appearance on the 13th when they bombed Kut. On March 5 one of the Voisins was shot down by a Fokker. The German’s sporadic bombing attacks inflicted no great material damage but did affect the civilian morale in the town.

Adverse weather and the overwhelming number of Turkish troops in the area, prevented Kut from being relieved by the British ground forces. However the RFC and RNAS aircraft, accompanying Gorrinage’s Tigris Force, were now able to operate from Ora, some 24 miles from Kut. During February and March miscellaneous items such as medical supplies, mail, wireless equipment, and spare parts were dropped intermittently into Kut. Then, on March 27, Townshend made an unusual request for a 70 lb. millstone to be air-delivered by
parachute. Bearing in mind that, in early 1916, parachutes were rarely if ever used, and were never carried in aircraft for pilots or observers, the general’s request created something of a problem. In the event Corporal J. Stubbs, one of the eight AFC mechanics still operating with Petre, designed a special parachute which made the drop possible. By coincidence, the millstone was delivered in Kut to another AFC corporal, J. McK. Sloss, who was later promoted in the field to a flight sergeant for his work in erecting the mills to grind the corn for the beleaguered garrison. Sloss was one of the nine AFC mechanics besieged in Kut.

Of added interest is the fact that Stubbs, other than designing parachutes, was also responsible for fitting a battery of five Lewis machine-guns under the fuselage of a B.E.2c for ground strafing. The guns were attached to the undercarriage of the B.E.2c with the steel tubing from one of the damaged Henry Farman F.27s. One of No. 30 Squadron’s pilots, Lieutenant C. J. Chabot, carried out a flying test but the multiple firings stampeded some nearby British cavalry horses and Chabot was ordered to remove the guns forthwith.

In April it became necessary to start supplying Kut with food from the air, and the first drops were made on the 15th. The aircraft used for this first major air supply operation in history included four B.E.2cs of the RFC, and one Voisin, one Henry Farman F.27, and four Short 225s of the RNAS. Petre took a leading part in the operations flying the B.E.2cs and, on occasions, the F.27.

In all 140 food-dropping flights were made and 19,000 lb weight of food was delivered to Kut between April 15-29. The German Fokker fighters began attacking the food-laden biplanes on the 24th, and an escorting machine carrying an observer with a Lewis gun had to be provided — even so, one of the Short seaplanes was shot down on the 26th. That same day three newly arrived Shorthorns flew in from Basra, but all three were later wrecked in a violent storm during the night of May 2. Notwithstanding the efforts of the supply dropping aircraft, the food delivered fell far short of what was required and Townsend surrendered Kut to the Turks on April 29, 1916.

Soon after the fall of Kut, Captain Petre was posted to an RFC unit in the United Kingdom. Then, from September 1, 1917, until April 27, 1918, he became the first commanding officer of No. 29 (Australian Training) Squadron, RFC — later No. 5 (Training) Squadron, AFC, as from January 19, 1918. The remaining eight AFC mechanics at Basra were sent to Egypt in early 1916 to join the newly formed No. 67 (Australian) Squadron, RFC, which became No. 1 Squadron, AFC, January 19, 1918. Of the nine AFC mechanics taken with the 13,000 prisoners in Kut only two, Flight-Sergeant Sloss and Air-Mechanic K. L. Hudson, survived the march of over 700 miles to Anatolia in Turkey; Corporal T. M. N. Soley and Air-Mechanic D. Curran died at Nisibin; and Air-Mechanics L. T. Williams, W. C. Rayment, F. L. Adams, W. H. Lord, and J. Munro in the vicinity of the Taurus Mountains.

Thus, to all intents and purposes, the operational history of the Half Flight, AFC, came to an end when Kut capitulated at the end of April, 1916. The RFC units remaining in Basra, including No. 30 Squadron, were later re-equipped and subsequently played an important role in capturing Mesopotamia from the Turks — and, of course, after the war, Mesopotamia became Iraq.

Perhaps the highest tribute paid to the achievements of the Half Flight is contained in the words of one of Australia’s greatest soldiers, Lieutenant-General Sir John Monash, “... it was not in France alone that Australian airmen achieved a repute of high efficiency, or a tradition of sublime valour. In Palestine and in Mesopotamia the same tale unfolded itself. Indeed, it was in the most easterly theatre of War that the foundations of these noble traditions of the Australian air-fighters were laid.”
STRAY THOUGHTS ON THE "ARMY JOURNAL"

After having read with interest the letters of Mr G. R. Gronow and Major D. Cruden and the extract from Brigadier Thyer's letter in the September 1976 issue and also after having re-read in the June 1976 issue of Army Journal the Editorial, I have been moved to take up arms with the object of contributing to the discussion about the Army Journal.

I should like to release my first arrow at the title of the journal. When the journal began in 1948 it was known as The Australian Army Journal. This was a good title. It satisfied the canons of clarity, completeness, conciseness and correctness and it gave the journal a clear-cut national identity. The title gave satisfaction for about two decades when suddenly, in circumstances and for reasons that I have never known, the title was changed to Army Journal. I have never ceased to wonder why a good title was discarded for that of Army Journal. It was not even The Army Journal—it was just Army Journal. A journal's title needs to be good to look at and good to listen to and these requirements come about by paying some regard to the four canons set out above. The title Army Journal did not satisfy any of these canons and it is neither good to look at nor good to listen to.

Why not The Australian Defence Force Journal?

With regard to Mr Gronow's statement that he would "like to see more book reviews of contemporary military literature appearing in the journal" could a statement on book review policy be published in the journal for the guidance of potential reviewers? Does the Defence Force Journal receive books from publishers to review? How is the book disposed of after it has been reviewed?*

The following words in Major Cruden's letter are worth close examination: "The Army Journal is worth reading for mundane material. Thought provoking or stimulating — never!" The remedy for a situation of this kind lies of course in the hands of all members of the Australian Army and the RAN and RAAF, only a small minority of whom support the Journal with contributions. The Editor can only publish the best of the manuscripts that are submitted to him so he cannot be blamed if the Journal lacks "thought provoking or stimulating" papers. However, I agree with Major Cruden's implication that Australia's military literature cannot yet boast of any General Sir Edward Bruce Hamleys, General Sir Ian Hamiltons, Lieutenant Colonel Charles a'Court Repingtons, Field Marshal Lord Wavells, Major General J. F. C. Fuller or Captain Sir B. H. Liddell Harts. The Australian Army has not yet produced any authors-at-arms with literary skill comparable with that displayed by these distinguished officers who have been adornments of the British Army. In our own midst we have derided and discouraged these "pen and ink" soldiers for too long to be able to rectify the situation at short notice. Today however, Australia's army officers are more fortunate than those of the inter-war period from 1919 to 1939 were. Then the Australian Army had no journal of its own. During that period a few officers were lucky enough to have papers published overseas in British Army journals. But today the situation is much different and greatly improved. The Army Journal helped considerably towards the development of the intellectual powers of officers and towards increasing their skills in expressing these powers in writing. An officer who can write papers with skill for this Journal can also write reports, correspondence and orders with the same skill. Every officer in the field, with a multiplicity of tasks to complete concurrently and often with very little time in which to complete them, knows the value of terse, complete and unambiguous orders and reports. He also knows, or learns to know in the course...

* See my Comments in issue No. 1 — Editor.
of gaining practical experience, the confusion that orders and reports of a different character can introduce into a situation.

Indeed, what the Army Journal has done since it began in 1948 is to build up systematically a body of Australian military literature just as, since 1921, The Army Quarterly in London has built up systematically a body of British military literature. The quality of papers published in Army Journal improved in style and in intellectual substance gradually. This improvement in the Journal’s quality can be readily seen by comparing papers in earlier issues with those in later issues.

I should like to direct my fire now to three other targets two of which are today editorial inheritances from earlier times. First, could letters to the Editor, which are at present set out in an amateurish way, be set out in the form in which they are set out in the Journal of the R.U.S.I. Second, could the titles of articles and the names of their authors be set up in plain bold type faces which are aesthetically pleasing to look at and are stripped of all supporting decorative features? The journal is not a “comic cuts” or a children’s picture book. Third, could footnotes be restored to articles and endnotes be banished? It is much more convenient to read footnotes than endnotes. Moreover, footnotes give a better appearance to articles which are based on research. After all footnotes are an essential element in judging the intellectual quality of a paper. They are not something that can be omitted without damage or included as an “extra” in the form of endnotes merely to appease minority groups.

Every army, including of course the Australian Army, has a peacetime and a wartime history; each complements the other: and so each is, without the other, only a part of the whole. In the past we have probably often failed to recognise these obvious facts when disposing of records and in addition we have been especially neglectful in the field of military biography. We are therefore “very thin on the ground” in the matter of published biographical information based on adequate research — that is biographical literature relating to Australian officers who have made some contribution to the profession of arms in either command or staff appointments in either peace or war. Brigadier Thyer’s suggestion that we undertake studies into the careers of Generals Berryman, Blamey, Lavareck, Mackay, Morshead, Sturdee, Vasey and Wynter, in accordance with the comparative method adopted by Captain W. J. Graco, is a constructive one and, if taken up, would help in remedying this biographical neglect. Captain Graco worked out his method in an article entitled “Alexander and Eisenhower” in the June 1976 issue of the Army Journal.

There are many interesting tasks which could be undertaken in this way. A comparative study could be written on Chauvel and Monash who were Australia’s two most distinguished commanders to emerge from the War of 1914-18. Another such study could be undertaken on Blamey and Lavareck. A third comparative study could be undertaken on General Gordon (1856-1929) and General Hoad (1856-1911). These two officers belong in history to an earlier period. Hoad became Australia’s second Chief of the Australian General Staff in 1909 and Gordon, Hoad’s originally more senior rival for the prizes of rank and office, became Australia’s fourth Chief of the General Staff in 1912. A fourth task of considerable importance would be a comparative study of General Bennett (1887-1962) and General Morshead (1889-1959). Such a study would fill in many gaps in Australia’s military history — gaps if not filled in now may not be filled in later. Bennett and Morshead were products of an era in Australia when part-time officers were able by good performance to attain high ranks and senior command appointments.

32 Outlook Drive,
Eaglemont, Victoria, 3084.

Warren Perry, Major R. L.

Notes
SOME REFLECTIONS ON DEFENCE ECONOMICS


Reviewed by Commander W. S. G. Bateman Royal Australian Navy

"Economists commonly refer to war and preparations for war as fleeting interruptions of otherwise pacific industrial pursuits. This hypothesis, still widely held despite prolonged experience with the Cold War, allows economists to view the clash of arms as a social aberration, a moment of madness, which imposes on them no necessity to relate its process to the corpus of economic theory."


THIS quotation commences these reflections, because it is an apt description of the line typically taken in the writings on defence economics prior to the 1960s. It is an example of the changing emphasis in this subject over the years some appreciation of which is necessary if the resolution of ideas apparent in the two books now under review is to be fully appreciated.

The current trend is against footnotes in both books and journals. This is partly for the sake of ease of reading, where the eye is not constantly distracted from the text to the footnote, but mostly because at the make-up stage, footnoting would necessitate a great deal of chopping and changing in the galley proofs, with the consequent rise in the cost of production — Editor.

The attitude of economists described by Clark in the quotation above has its origins in the works by Adam Smith, Ricardo and Malthus, and if it is accepted as the basic thesis of defence economics, then the classic treatise on the subject by Hitch and McKean in the early 1960s, The Economics of Defense in the Nuclear Age, Cambridge Mass., Harvard University Press, 1960, is the antithesis. That book may be regarded as providing an antithesis because in contrast to the earlier classical approach where defence economics dealt with war economies and defence-related activities as occasional 'social aberration', Hitch and McKean postulated military activities as permanent features of the modern economy.

I draw attention to the works by Clark and Hitch and McKean early in this review, because these two books are apparently regarded as the basic texts on the subject of defence economics in Australian defence colleges. Hitch and McKean is the only text on defence economics per se which is recommended pre-course reading for students at the Joint Services Staff College and Clark is in a similar solitary position on the reading list of economics students in the Faculty of Military Studies, RMC, Duntroon. However these two books are typical of just another particular phase in defence economics thinking. They are associated with the McNamara doctrine and an awareness that in the United States
during the fifteen or twenty years after World War II, military expenditures were absorbing each year a large proportion of the Federal budget and were far from being occasional 'social aberrations'. The implicit assumption appears to have been made in these studies of a decade or so ago that the Cold War would likely continue, if not escalate, in the future and as a result, there would be almost a superabundance of resources available for the defence sector. It was not so much a question of 'doing the right thing' but rather one of 'doing the thing right'. The latter approach involved considerations at the micro-level, i.e. efficiency in the use of resources within the defence sector, whilst the former approach brought into consideration, the allocation of resources at the macro-level within the total economy, i.e. the division of resources between the defence sector and other sectors of the economy with competing needs for the scarce resources available.

However as Weidenbaum points out in the introduction to his book, 'the American public has a short attention span'. After some years of a plentiful supply of U.S. journal and newspaper articles on topics such as the military-industrial complex, cost-effectiveness in military spending and civil-military relations, the pendulum has swung to the other extreme where, in part as a reaction to the Vietnam war, the defence sector has become 'a basically unpleasant subject'. As a result, this sector must compete more than ever before in the budgetary process for all its resources if a proper balance is to be struck between realistic military requirements and pressing social needs. It has become time to think more of the defence sector 'doing the right thing'.

These trends have led to a new approach in the literature on defence economics — represented by the two books under review in this article. With the wisdom of hindsight, it is apparent that the time was overdue for economists interested in defence matters to take a wider view of their subject. After the heady days of the 1960s, it was time for the subject to come of age. Kennedy and Weidenbaum represent that coming of age, although their books in isolation, go nowhere near providing a total answer.

Whilst both books have a common theme, that of exploring the role of defence expenditure within the economy at large, the book by Kennedy has much more relevance to Australian defence. Weidenbaum deals specifically with the U.S. economy this book's title could well be 'The Economics of Peacetime Defense in the United States') whilst on the other hand, Kennedy, in producing the first British study of defence by an economist for many years, draws his examples from many countries and thus gives his book global relevance.

Both authors are well qualified to write on the subject. Gavin Kennedy, now a senior lecturer in economics at the University of Strathclyde, Scotland, conducted the first series of Defence Economics lectures to undergraduates in a British university (Brunel University 1973) and has also been a part-time lecturer on the subject at the National Defence College, Latimer, U.K. His present research interest is that of defence burden sharing within the NATO alliance.

Murray Weidenbaum has had experience both within commerce (corporate economist for the Boeing company 1958-63) and in government (Assistant Secretary of the Treasury for Economic Policy 1969-71). He has published widely in the area of defence economics but possibly is better known for his works on the U.S. public sector and budgetary processes. On the basis of his experience, he is competent to look at his subject both through the eyes of the defence industry and from the viewpoint of the radical critics of the military-industrial complex.

Weidenbaum's latest book is 'an objective evaluation of the economic role of the military establishment in the U.S.' However his central thesis is that since the closing stages of the Vietnam war, the military in the U.S. has taken some hard knocks and there is a real risk that a proper balance will not be achieved between meeting the newer challenges provided by social, political and ecological strains, and the older challenges of military threats to national security. Vietnam demonstrated that a large and well-equipped military establishment is not a sufficient component of a 'national security strategy', which in the case of the U.S., no longer contains use of the words 'war' or 'military' or 'defense'.

This new hypothesis of defence economics, which is a refinement of the well-known guns-
butter dichotomy, requires detailed knowledge of the economic role of the defence establishment. It gives the subject even more purpose than before, since it is now more necessary to ensure that the full economic and social consequences of alternative defence strategies are analysed and fully appreciated.

Gavin Kennedy in what may be regarded as his core chapter (Chapter 8 — Impact of Military Spending) addresses three important questions. Firstly he considers — and rejects — the frequently alleged role of defence expenditure as a mainstay of capitalist economies. He claims that defence expenditure has too small an economic base to be the source of capitalist stability and it might be more important for economists to identify the real source of the ‘burden’ rather than to provide false economic ideas in support of value judgments about the efficacy of defence expenditures’. (p. 192).

His second major question concerns the regional effects of defence expenditure and here there is a topic which could well be given more thought in the Australian context. There is no doubt that the location of a defence installation is a significant economic variable and it is quite feasible that the increased defence costs involved with the choice of one location, as opposed to another, could be more than offset by the additional social and economic benefits which result — without any loss of military efficiency. These are the types of effects of defence expenditure which need to be understood if defence decision making is to be a proper compromise between political or military consensus and economic rationality.

Finally in this chapter, Kennedy considers the economic impact of military aid, touching on a subject which he has covered more fully in an earlier book, The Military in the Third World, London, Duckworth, 1974. This is the notion that military activities and expenditure in a less developed country need not be a complete economic loss but rather can make positive contributions to the process of development. With regard to military aid, it has an economic rationale if more domestic resources are released for development by military aid than are diverted by it.

Reflection on the two books under review should lead the reader to consider whether defence decision-making could not widen its input base. Do we have to just ‘muddle through’ in the Lindblom sense? Decisions within the Australian defence sector tend to be sub-optimal ones and do not optimize in a macro-sense. Military costs and benefits are the only ones considered and social costs and benefits do not normally enter the analysis.

Little is known in Australia about the impact of defence expenditure on the different sectors of the Australian economy. There are many inspired guesses and estimates but rarely anything at all rigorous and it is here that Kennedy and Weidenbaum provide most food for thought.

Decisions relating to the location of defence bases are good examples of where defence objectives could still be achieved, admittedly with higher defence costs, but with much higher social and economic benefits accruing. Defence decision-making frequently has many options available, all of which are approximately equal in military effectiveness, but with a wide range of social costs and benefits involved. Inevitably the least cost alternative is preferred although at a national level, it may not always be the rational alternative.

Defence economics has a necessary role within the structure of military decision-making for both the preparation and execution of defence plans necessarily require the allocation of limited resources amongst a great variety of competing programmes. The subject becomes even more important when the concept of ‘total defence’ (not dissimilar to the latest U.S. concept of ‘national security strategy’) becomes the vogue.

Both books under review have much of the textbook about them but they should not be set aside because they have that appearance. They do each bring together tautly within a single cover a subject of vital concern to all interested members of the defence establishment and which has become over the past ten years not a little amorphous in content rather losing the bite it should have. Kennedy’s book especially demands a place in any library, either departmental or personal, which is established to provide reference material for students, writers and even experts on defence matters.
OBSERVATIONS ON MILITARY ORDERS (BESCHOUWINGEN OVER HET MILITaire DIENSTBEVEL) by Jhr Mr Th. W. van den Bosch, Zutphen, De Walberg Press, 1976.

Reviewed by
Lieutenant Commander A. Hopman
Royal Australian Navy

In his short book (70 pp. including notes and summaries), Jhr van den Bosch traces the history of the giving and receiving of military orders and discusses in some depth the vexed question of what is and what is not “a lawful command”.

The military man is not helped by either modern political thought or by modern warfare technology. Quoted in the book is a sentence from Churchill’s My Early Life, in which he says, “When democracy forced itself upon the battlefield, the war ceased to be a gentleman’s game.” As Squadron Leader A. K. Robertson points out in his article Theirs not to Reason Why . . . ? (Defence Force Journal No. 1, November/December 1976) the “unit of battle” is now likely to be “a remote personage with his finger on the button.” Who gives him the “lawful command” to destroy half mankind?

The main text is in Dutch, which rather restricts its readership in Australia, though there are comprehensive summaries in English, French and German at the back.

Well annotated, it is the work of a scholar, and should appeal to the serious student of the history and practice of military law. It is based on an address given by the author at the University of Amsterdam in May, 1976.


Reviewed by
Squadron Leader J. R. de Bomford
Air Force Office

Prime Minister John Curtin’s decision in 1942 to break with the traditional Imperial Defence arrangements between Australia and the United Kingdom was an overdue response to the threat posed by Japan. It was also a recognition of Britain’s inability to wage war successfully and simultaneously against the Axis powers, especially in regard to the movement of naval units from Europe to the Far East.

Australia and Imperial Defence 1918-39 traces the fortunes of Imperial Defence during the inter-war years particularly as it affected the development of the Royal Australian Air Force, and also the relationship which existed between air and sea power. It is the first volume ever published dealing exclusively with the formulation of defence policy in the years before World War II.

Necessarily, the subject and its development are not without complication and dilettante readers are warned accordingly. Nonetheless, Dr McCarthy has magically reduced a bewildering array of references (the ‘select’ bibliography covers twenty-two pages) into a tightly written and very informative work. The author’s standard of scholarship is well illustrated by his wide ranging research which took him to the United Kingdom and the United States, as well as this country. On a personal note, I was intrigued by his discovery of Sir John Salmond’s Report on the Royal Australian Air Force in a War Department file, at the National Archives, Washington.

A recurring theme in this book is the willingness of succeeding governments to seek British opinion in preference to Australian advice, sometimes at the expense of our service needs and national interests. An example given in this book was the Admiralty recommendation in 1924 to purchase two submarines. These vessels were delivered in 1929 but were transferred to the Royal Navy in 1931 because they were irrelevant to Australian defence responsibilities, this was at a time when the Royal Australian Navy was seriously short of destroyers. The book does not elaborate on the historical or other reasons behind this perplexing preference for British opinion. Not all of the reasons for it are self explanatory and a slight criticism is perhaps warranted therefore, on behalf of readers from more recent generations, who are often unaware of such influences as the strong ties for the ‘Mother Country’, which were felt by many Australians in days past.

The Admiralty’s performance from 1919 to 1939, especially in its adherence to the ‘Fleet to Singapore’ strategy, as opposed to Jellicoe’s standing fleet recommendation, and the attend-
ant advice given to Australian governments, is portrayed by the author in a less than favourable light. This advice was of course of great moment in the formulation of Australian policies and its effect is skilfully explained by Dr McCarthy.

The inter-war years also saw the creation of the Royal Australian Air Force. The account given of the infant service’s early problems and the way its first Chief of Air Staff successfully achieved and maintained autonomy is well told and recommended reading for servicemen of all services. Sir Richard Williams is given deservedly sympathetic and detailed coverage although the author’s comment in summary that the Air Marshal displayed timidity in his dealings with the Army and the Navy is arguable. As the earlier text makes clear, delicacy in negotiation was a necessary policy into the 1930s, if an independent air force was to be retained.

Curiously, the publisher’s ‘blurb’ intimates that Australia and Imperial Defence has merely gathered information which is scattered through official war histories, into a single volume. This it does but it represents much more than this. The results of Dr McCarthy’s research have added much original thought to the understanding of a little known era and should also be of assistance in evaluating some current defence thinking. It is to be hoped that this excellent book will be an inspiration to Australian historians and political scientists to produce further useful works on the relationships between politics and defence in this country.


Reviewed by Wing Commander K. C. Sharpe RAAF Staff College, Fairbairn

THOSE who find today’s airlines too impersonal, antiseptic and unexciting will find much to confirm their views in ‘Ernest K. Gann’s Flying Circus’. Gann’s purpose in this book is to take us back to the twenties and thirties — to those ‘other days, much simpler, more immoderate and infinitely more joyful for those whose very life and love was flight’. Gann, himself, was one of those whose ‘life and love was flight’ — as we find in the opening chapter where the author recalls his youthful enthusiasm for flying, and the exhilaration of aerobatics (‘“aerobatics” sound too fancy for us’) in a Ryan Sport Trainer. In the 21 subsequent chapters, this love of flying constantly shows through as he sketches for us the aircraft and personalities that dominated commercial flying in that earlier era.

Gann’s approach is a simple one: each chapter is built around a different aircraft — its virtues, its idiosyncracies and the impact that it had, especially in the United States, on commercial flying at the time. Some of the better known types with which he deals are the Argosy, DH4, Graf Zeppelin, Scipio Flying Boats, Ford Trimotor, JU52, and the DC2, DC3 and DC4. Yet Gann is not at his best in describing aircraft, and those chapters where he concentrates almost entirely on the aircraft themselves are the least satisfying in the book. Similarly, the segments dealing with the rise and fall of the various airlines, though interesting enough, have a certain flatness about them.

However, as soon as he starts to deal with the people of the era (for example, Juan Trippe and Glenn Martin, and his own early mentor, Logan) the pages come alive. Gann’s ability to capture the physical appearance and especially the personality of an individual are best exemplified in the segment he devotes to American Airlines No 1 pilot, ‘Slonnie’ Sloniger. Gann greatly admired Sloniger, who had very firm views about the difference between an ‘airman’ and a mere ‘pilot’. (Those who aspire to airmanship might like to check their attributes against those insisted on by ‘Slonnie’.)

The very best parts of the book are those in which Gann recaptures the atmosphere associated with flying particular types of aircraft; he puts us in the pilot’s seat of a DC2 and recreates for us all the feelings, fears and sensations of an instrument landing at night at Newark during a snowstorm; he tells lovingly of the strength and stability of the DC4 and skilfully contrasts the mood and atmosphere in a wartime, redevac DC4 with that aboard the luxurious Matson Line DC4s immediately after the war. Some purists might object to Gann’s present-tense, ‘you-are-there’ style of writing in these segments but there is no doubt that he is remarkably effective in making vicarious, old-time pilots of his readers. No-
where in the book is this better done than in the final chapter where we are able to relive with Gann the pleasures of flying a DC3 4000 miles across the Pacific from San Francisco to Apia.

‘Ernest K. Gann’s Flying Circus’ is not a book for the historian who is seeking technical information on aircraft of the past, nor a neat, detailed, sequential account of the commercial airlines — Gann’s book is much too episodic and impressionistic for such purposes. But for the reader who wants to know what it felt like to fly the old-time airliners, to discover the atmosphere of those heady days, or simply to commune with someone who unashamedly loves flying, ‘Ernest K. Gann’s Flying Circus’ will be a most rewarding experience.


Reviewed by Lieutenant Colonel O. M. Carroll Directorate of Infantry, Army Office.

BRASSEY’S Annual was well known to Staff College students as a valuable reference on Defence matters. Its enviable reputation, earned since 1886, was maintained when in 1974, Brassey combined with the Royal United Services Institute (RUSI) to produce the RUSI and Brassey’s Defence Year Book. This excellent publication was repeated in 1975.

Also in 1975, Brassey produced for the first time, a rather large volume, edited by Major General J. I. H. Owen, OBE, entitled “Brassey’s Infantry Weapons of the World”. This edition was excellent in content and presentation but its bulk tended to restrict it to reference library use.

Now, Brassey’s Publishers Limited have produced compact, twin volumes, entitled “NATO Infantry and its Weapons” and “Warsaw Pact Infantry and its Weapons”. The editor is again Major General Owen, who is a recent Commander of Royal Marines Commandos in Britain. His knowledge of his subject is evident and these two new companion volumes are first rate reference books. They are not only valuable for the well documented and illustrated detail on the present day infantry weaponry of the two major European alliances, but they also provide interesting insights into the organisation, tactics, training, forms and conditions of service, discipline and morale of the armies on either side of the Iron Curtain.

The volumes are written in a clear and readable style which whilst at times displaying flashes of grim humour, is sobering in its reality, as evidence by the following quotations from the Warsaw Pact Infantry and its Weapons.

“University students, and men who are the sole supporters of aged or invalid parents or have two or more children can have their call up deferred. But university students can forfeit this privilege for bad behaviour or poor examination results”.

“Politically unreliable conscripts are usually posted to infantry units in spite of skills that might normally qualify them for specialised assignment.”

“Live ammunition is issued during field exercises and actual combat conditions are so closely simulated that training accidents are accepted as a matter of course.”

“In the Soviet Army the prevailing atmosphere in army life is usually boredom, and there have been instances of men shooting themselves to get out of the army. (There is a simple rule for this: Fire at yourself below the belt and you can be tried for desertion; fire at yourself above the belt and it is considered a suicide attempt — for which you are demobilised and sent home.)”

“Resupply (of rations) is a secondary consideration and the soldier is expected to fend for himself — foraging for fuel to cook his meal and anything extra he needs. This he normally does by stripping orchards and farms in the exercise area and hacking down fences for fuel.”

Whilst one could perhaps endorse the motives underlying the first quotation, the remainder illustrate a cold, ruthless system. This is effectively summarised in the conclusion of the section.

“There is little evidence to suggest that the Soviet authorities have come to any greater regard for human life than they had in World War II and in another war Warsaw Pact infantry are likely to be ruthlessly sacrificed to gain an objective.”
When this attitude is linked to the detailed description of the infantry weapons of both alliances, as documented in these books, the reader is presented with considerable food for thought.

These volumes are a pair of extremely useful manuals for both soldiers and students of military affairs. They would enhance any military library.


A BIBLIOGRAPHY is not the easiest of books to review, as one must either accept the compiler's annotations or delve into an extremely large number of the listed works, a mammoth task, and one which makes for an appreciation of the devotion to the subject of Mr Shulman.

Such is David Shulman's reputation as a scholar and as a professional cryptanalyst, that one need have few fears about the integrity of his references. These have a truly gargantuan range both in time and background, and include official documents from as far back as the sixteenth century and an article in the July, 1917 issue of the Ladies Home Journal entitled, "The Way the Spy Works".

The entries are arranged in chronological order, some three thousand entries, in a remarkably neat and concise package. Books on related subjects such as espionage, computers, communications and works of fiction are included. These latter have the stamp of authority being by such authors as Sir Arthur Conan Doyle, John Buchan and Edgar Wallace. There is even mention of a work by that great American short story writer, O. Henry.

Mr Shulman provides the location of the rarer works in libraries and private collections, and an author index, which is cross-referenced. Readers interested in particular aspects of the subject should find the Compiler's annotations useful in identifying the relevant works for their individual needs.

The review copy is now held in the Campbell Park Defence Library, Canberra.

CURRENT DEFENCE READINGS

Readers may find the following articles of interest.

DOD to push ECM commonality. (New Pentagon policy on greater interservice co-operation also will require more modest objectives on future efforts.) Aviation Week and Space Technology, 4 October 1976: 17-15.


Decade of progress under Army-NASA pact.


AFRES/ANG best shape ever. (With improved manning, newer equipment, and top-level support to the total Force policy, over reserve components are judged by DOD, to have a more responsive combat capability than the Reserve of the other services.) Air Force Magazine, June 1976: 55-59.


Britain's strategic nuclear force: After thirty years of backing and filling the end is in sight. Canadian Defence Quarterly, Summer 1976: 23-29.


Europe's Tornado. (On July 29 the British, West German and Italian Governments signed a memorandum of understanding authorising the initial production of the Tornado, an ambitious aircraft.) Flight International, 7 August 1976: 330-336.

Chemical Warfare. (The only people alive today who can remember the horrors of a gas attack against unprotected personnel are the few survivors from World War 1.) Pacific Defence Reporter, October 1976: 43+(4p).

Technique


Japan to discuss MIG return to USSR. Aviation Week and Space Technology, 4 October 1976: 20-21.


Fiber optics will change communications in diving. (Diving Unlimited International is developing a system which uses glass Fibers for diver communications. An optical fiber only 0.005 in. in diameter can transmit 20 television channels or several thousand voice/data channels or a combination of the two). Ocean Industry, June 1976: 63-64.

