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Dear Sir,

The Maritime Command has been holding compulsory seminars on unacceptable sexual behaviour for officers and senior sailors. The one I attended was well presented and obviously necessary but it posed more questions than it answered, and showed very clearly that the law can only give guidance and some protection but does not cure.

Historically the Military has not conformed to society’s liberal standards, having their own Discipline Acts. Until attending this seminar I had naively assumed that Australian society under any government recognised the nature, function and discipline of the Defence Forces as being necessarily different. Now, in fighting for survival, the Defence Forces have been forced to bow to political pressure in permitting the recruitment of declared homosexuals. They are also becoming bogged down by the additional bureaucracy and cost required to enforce discipline, all to detriment of their effectiveness as fighting services.

Historically, as Churchill once quipped, the Navy ran on rum, sodomy and the lash; but sodomy, to use its correct title, was always severely punished having come down to our own legal system from mosaic law where it was punishable by death as an abomination to God. But now we are giving tacit approval to sodomy between consenting servicepersons ashore.

The Defence Forces have crossed a very dangerous line by conforming to society’s liberal standards. They will not hold to the status quo of keeping the depravity of homosexual practices from undermining their effectiveness as fighting services in the long term.

People are beings of conscience and this was recognised in the moral basis of previous Discipline Acts, and by the fact that we still employ chaplains to maintain our moral welfare. The Defence Forces can now be accused of duplicity by continuing to employ chaplains to uphold moral standards, in accordance with Biblical principles and, at the same time, compromising God’s laws.

During the seminar the question was posed as to whether it was acceptable behaviour to be a spectator to a Gay Mardi-gras, and the majority in the audience indicated that it was. It is one thing to accept that homosexuals have rights as human beings under the law, but quite another to condone perverted behaviour by attending a Gay Mardi-gras. Ten years ago most would have thought it unacceptable. There is no longer clear delineation between right and wrong.

It is taken for granted that separate sleeping quarters are required to protect women from men. Surely heterosexual men, who are the mainstay of the Defence Forces, have every right also to be separated from homosexual men. Sodomy and the threat of sexual harassment will only be alleviated by either the non-recruitment of declared homosexuals as was, their removal when the practice of sodomy is identified or separate sleeping quarters for them also. Heterosexual women should likewise be separated from declared female homosexuals.

In time, homosexuality will spread like a cancer through the Defence Force and morale, discipline and security problems will continue to grow as long as it remains unchecked. In the future, the fear of homosexual harassment will make the best young heterosexual Australians think twice about a career in the Defence Forces, and indeed they may be put off from doing so by homosexual officers interested in recruiting and promoting only their own kind. Parents, particularly ex-service personnel, will not wish their children to join.

As a nation I believe we have no option but to attempt to win back the high moral ground lost by our acquiescence of liberal social policies and attitudes, through a moral behaviour re-education process. This would require very strong leadership and flies in the face of the liberal new age. In the Defence Forces we should use chaplains for this. If not, then why employ them at all when we obviously now expect them to compromise their faith and principles?

The Australian Defence Forces and those of other democratic countries have been forced to compromise moral values by governments bowing to self-interest and minority pressure groups. We are indeed on a slippery downhill slope and we can only look to Sodom and Gomorrah, to chapter 1 of St Paul’s Epistle to the Romans or Gibbon’s Decline and Fall of the Roman Empire to find the ultimate consequences for our nation and its Defence Forces.

R.C. Prendergast
Lieutenant Commander
Dear Sir,

Almost 15 years have passed since it was first proposed to raise four Surveillance Regiments across the top of Australia. The plan was to raise all Regiments in one 12 month period. Each Regiment was to have three squadrons consisting of Reservists from Police, Customs, Telecom, demolition industries, port and airfield authorities, hospitals, station managers, stockmen, Aborigines, vehicle mechanics and vets. The OP was seen as the key to the battle field, with each squadron consisting of 20 patrols, backed up by vertical envelopment using quick reaction troops.

What a difficult birth it was. I participated in the second Norforce Patrol in 1981 and commanded a Sqn in the first Pilbara Regt deployment some 11 years later. In the intervening period I exercised against Norforce as a SF enemy on two occasions and TEWT'ed the establishment of 51 FNR. I ask myself have we got it right? Numerous papers and audits have been written on surveillance for northern Australia. Will mine be simply one of those?

The RFSUs as they are now, offer variants on surveillance. All employ reconnaissance patrols and some use local observers to varying extents. How successful have they been? Well a significant number of real and exercise incursions have been detected, but what is the measure of success? Is it enough for just one to have been reported? Must the network be watertight? Half the problem is that no yardstick has been provided. There is still no surveillance plan for northern Australia. Given the threat, I can live with that, although my gut feeling (be they from contrived exercise scenarios) is that the probability of detection will be very low as the units are currently structured. There are so many intangibles in the equation, so it is hard to justify criticism, but can we do better?

Too often in the last ten years, have I witnessed a tenuous link between detection, handoff and destruction. The Rhodesians could do it, but we have not yet come to terms with distance and the finesse required of the combined arms team. So why not armed reconnaissance? Why not leave surveillance to the low visibility experts, the air and ground observer? Cheaper by far in comparison to the skills required for patrolling and equally employable in all types of conflict. Why not leave the act of closing with an enemy to those who can follow through? Their probability of survival is far higher than the likelihood of a reconnaissance patrol surviving an encounter with the sort of enemy we envisage in ELLOPs. There are some unique terrain differences between the three RFSUs with consequent different emphasis on techniques, and in close country what I'm proposing won't work. It won't work against a surrogate enemy either, but if he is anything like our SF, then being in close country is the wrong place to be anyway. He will be in, out and gone before you know it. Time on target will be minutes, unless he is waving the flag for other reasons.

In essence, I put that we need to revisit the principle of forming Surveillance Regiments. It was, as it was with the NAOU in 1945, to detect changes in normal patterns of activity. This is where the emphasis needs to be, to record the start point. The complement (and the junior partner) is the fighting patrol, armed with both local and intimate knowledge and the whereby to close with suspicious activity in comparatively isolated circumstances, without backup. So what will this RFSU look like? Perhaps the easiest way to describe it, is a surveillance squadron with a network of observers and a patrol squadron with troops on standby for follow-up. Dare I say it? A recondo unit — infantry with reconnaissance skills.

Surely not you say! Wouldn’t it be better to just lie in the mangroves or the spinifex and just watch? In a lot of cases yes, particularly if you put faith in intelligence gathering in the air sea gap. What we lack however is the ability to be multiskilled, particularly in much of the terrain across the top of Australia where low visibility surveillance is a waste of time and if you want results you have to go looking for incursions in a much more overt way, particularly if you are constrained by OOF and civilians are still in place. This article is not meant to be a litany of complaints, It is meant to prompt discussion on a structure which tasks the wrong assets to do surveillance and the wrong assets to do reconnaissance, that's if you want to regain the initiative. I recommend that you come up here and see for yourself.

1. Two in WA, one in each of NT and Qld.

J. Truscott
Major
Transformational Leadership: Implications for Military Leadership Training

By Captain C.N. Clay, AA Psych.

"Human beings respond to clear direction; they accomplish tasks under good management; but they will give all — and even more than their all — to the leader who stirs their blood, shows them how unique and remarkable they are, and how valuable their contribution."


"Leadership is of the spirit, compounded of personality and vision, its practice is art."

Sir William Slim (later Field Marshal Lord Slim).

Introduction

Military leadership training has traditionally been transactional in style. Recent organisational literature and international military research has advocated transformational leadership as a more powerful form of leadership since it transforms the motivational base upon which followers operate. This article explores the concept of transformational leadership with the intention of examining its appropriateness for inclusion into Australian military leadership training.

Battle leadership is often depicted as the “ultimate test” of military leadership. In today’s Defence Force, however, military leadership requires more than performance on the battlefield. It requires leaders that will be able to inspire soldiers to perform their best in both peace and war time. The peace time leader is responding to crisis of another type — of maintaining well-motivated soldiers during a period of structural change to the Defence Forces. This is not to say that leadership training should change its focus from training for war, since preparedness for war is essential. What it does bring to question is whether leadership training as it is currently taught is sufficient for military leaders in wider areas of employment.

Leadership is one of the most studied and yet least understood phenomena. There is no clear definition of leadership. Most definitions agree that leadership is the ability to influence the behaviour of others. Military leadership is defined as “the art of consistently influencing and directing men in tasks in such ways as to obtain their willing obedience, confidence, respect and loyal cooperation in the manner desired by the leader” (Leadership — Theory and Practice, 1973, p.IX). Military leadership is particularly special in that the leader must motivate the follower to be willing to sacrifice his life for the good of others.

The definition of leadership can be further refined by distinguishing between formal and informal leaders. Formal leaders are assigned a position by the organisation. Informal leaders emerge to influence a group, but may not be recognised by the organisation. In military leadership the primary emphasis is on developing the formal leader.

Transactional Leadership Theories

Before transformational leadership is examined, transactional leadership theories need to be reviewed. Transactional leadership theories are currently the most popular means of analysing the leadership process. Such theories emphasise the development and maintenance of leader-follower relations. Transactional leaders engage their followers in a mutually dependent relationship. Followers and leaders each give something in exchange for what the other wants. Interpersonal influence of the leader is high because it is in the best interests of the follower to do what the leader wants. “Thus, effective transactional leadership is contingent on the leaders’ abilities to meet and respond to the reactions and changing expectations of their followers” (Kuhert & Lewis, 1989, p.193).

Functional leadership, endorsed by the military, is a transactional approach. Functional leadership requires the leader to make a judgement on the importance of a task, group maintenance and individual needs. The leader’s skills, ability and personality will impact upon this judgement. Successful leadership is judged on the ability of the leader to balance the needs of the group and individual while getting the task done (Leadership — Theory and Practice, 1973).

Bass (1985) argues that transactional approaches to leadership are not sufficient for four main reasons. Firstly, transactional leadership is often not utilised because of the imperfect workplace, such as operating under time constraints and hence not being able to implement all of the leadership principles. Secondly, leaders often only interfere when things go wrong
rather than giving praise when things go right. Thirdly, leaders' and followers' perception of feedback is frequently different, with leaders often providing incorrect feedback. Fourthly, human nature necessitates that individuals are motivated by rewards and not punishment, so reprimands to correct performance can be self-defeating. Transformational leadership overcomes many of these recognised shortfalls.

### Transformational Leadership

James McGregor Burns first wrote of transformational leadership in 1978, although Max Weber alluded to this concept in his 1922 sociological analysis of charisma. Transformational leadership is defined by Burns as a process where "leaders and followers raise one another to higher levels of morality and motivation" (1978, p.20). The motivational base upon which followers operate is changed.

"The transactional leader affects follower motivation by exchanging rewards and by establishing an atmosphere in which there is the perception of closer links between efforts and desired outcomes" (Popper, Landang & Gluskinos, 1992). This is achieved by:

- a. raising followers' consciousness of important goals to achieve;
- b. getting followers to transcend their self-interest for the sake of the team, unit or organisation; and
- c. raising followers' needs from security and safety to the need for recognition and self-actualisation.

Despite the recency of literature on transformational leadership, the qualities that it prescribes have been consistently reported in the analysis of leadership trends and personal leadership requirements. Mueller (1984) hypothesised what being a leader in the twenty-first century really meant. He came remarkably close to describing what is now termed a transformational leader. A "leader must influence an institution more than it influences him or her... he or she tends to be a revolutionist, an innovator and not an evolutionist or traditionalist" (p.146). Mueller also identified that good leaders have intuitive logical reasoning, they are able to rapidly deduce the crux of a problem. He believes we need to "identify the nature of means by which rapid reification can be developed...[and]...to integrate and relate a charismatic component with the logical and intuitive attributes" (p.154).

Stewart (1992) says that the:

"...common factor in all... [transformational leaders]...is that they have led large numbers of people to do what they have never done before; and must of the time they are leading people towards a goal which is not clearly defined, along a path which cannot be completely charted in advance, sometimes a path along which no-one has gone before" (p.61).

He lists the following characteristics of a transformational leader:

- a. sees the need for change, often having a record as a "troublemaker";
- b. hates wastage and is always looking for opportunities to do things better, no matter how small the potential difference;
- c. trusts his or her intuition, especially if the goal path is not clear;
- d. is excited by living with uncertainty, they wouldn't swap their positions for anything;
- e. have a long term goal, mastering the principle of "think globally, act locally";
- f. is hard working and expects the same of others;
- g. can use status where necessary, but does not feel the need to pull rank;
- h. is a clear, exciting, urgent communicator;
- i. never stops learning, and is often intensely musical;
- j. is clear about his or her values; and
- k. is loved with genuine affection which goes beyond the boundary of normal respect; emotions of followers are engaged.

Transformational leadership does not dismiss transactional leadership. Bass (1985) believes that both are required to be exceptional. Transformational leadership is a higher-order leadership that is needed in addition to transactional leadership. Higher-order changes may involve shifts in "attitudes, beliefs, values and needs of followers" (p.27). For leaders to move from transactional to transformational leadership they must sacrifice personal goals. "They become free to understand that for some followers the concrete payoffs they provide are not as important as the maintenance of a certain level of mutual regard" (Kuhert & Lewis, 1989, p.199).

The distinction between transformational and transactional leadership is summarised by Hunt (1991, p.193): "Essentially, the transformational leaders tend to identify themselves as change agents and emphasise visions embodying change, to take risks and empower others, and to be cognitively complex". He or she needs more than the vision of change, however. They must be able to empower others to exercise this vision beyond what they perceive as their limitations. While a transactional leader can inspire involvement, loyalty, commitment and performance, a transformational leader can inspire a lot more. Transformational leadership originates in the personal values and beliefs of the leader, not in the mutually dependent exchange of leader and followers (Bass, 1985).
Kuhert and Lewis (1989) argue that transactional and transformational leaders are qualitatively different. They “construct reality in markedly different ways, thereby viewing themselves and the people they lead in contrasting ways” (p. 193). They believe that transformational leadership is a developmental process whereby leaders move through three stages to become a transformational leader. They believe that transactional leadership skills are worthwhile (i.e., the first two stages), but that transformational leaders have more options to initiate self-actualisation in their followers.

Charisma is the character trait which consistently distinguishes transformational leaders from transactional leaders. Charismatic leaders inspire heightened performance and are generally viewed as more successful than non-charismatic leaders. Charismatic leaders are capable of impacting an extraordinary effect upon their followers.

So what are the qualities of a charismatic leader? Atwater, Penn and Rucker (1991) compared the qualities of charismatic and non-charismatic leaders of civilian and military personnel. They found that charismatic leaders were described as “dynamic, inspiring, outgoing, sociable, insightful and enterprising” (p. 9). In addition, charismatic military leaders were rated higher on qualities of confidence, risk-taking, ethics and conformity.

Hunt (1991) distinguishes between two kinds of charismatic leaders — visionary and crisis-induced ones. The charismatic visionary leader moves from vision to action, whereas the charismatic crisis-induced leader responds to crises with a vision. Hunt suggests that these two kinds of charismatic leaders are mutually exclusive and that organisations need both depending on whether there is a crisis or not. Both leadership types have the ability to create a world of validity for their followers (Hopfl, 1992).

Bass (1985) believes that transformational leadership is more likely to emerge as a consequence of a crisis, and that followers’ personalities will help to determine the outcome of a charismatic leader. The more dependent the follower, the greater the impact of the charismatic leader. He also argues that charisma is only one quality of a transformational leader and that there are two other necessary qualities. Firstly, leaders should maintain an individualistic orientation to their followers. Individualised consideration refers to the individual attention that is given to followers which helps them to move towards self-actualisation. Transformational leaders often prescribe their own success to individualisation by having had strong role models in their early careers. Secondly, they should provide a high level of intellectual stimulation to enhance followers’ problem-solving capabilities, encouraging them to see old problems in new ways. They are likely to be proactive rather than reactive in their thinking. His basis for these assertions is empirical and therefore convincing. In summary, Bass found that:

“... followers described their military or industrial leader as someone who made everyone enthusiastic about assignments, who inspired loyalty to the organisation, who commanded respect from everyone, who had a special gift of seeing what was really important, and who had a sense of mission that excited responses. Followers had complete faith in the leaders with charisma, felt proud to be associated with them, and trusted their capacity to overcome any obstacle. Charismatic leaders served as symbols of success and accomplishment for their followers” (p. 34).

Criticisms of Transformational Leadership

Transformational leadership is principally criticised for its lack of empirical research. The concept developed by comparing transformational to transactional leaders, and by comparing leaders to managers. Research has not generally been experimentally based and explanations of transformational leadership do not really explain the process of how it operates.

Hunt (1991) believes that more descriptive interview and observational research is required before tools to assess and teach transformational leadership are applied. He identified that the concept needs to be more fully defined. It is uncertain whether transformational leadership is a leader behaviour, follower response or a two-way relationship.

The concept of transformational leadership is obviously still in a developmental stage. If transformational leadership training was to be implemented in the Defence Forces this would need to be taken into consideration.

An Example of Transformational Leadership Training in the Israeli Defence Force

The Israeli Defence Force provides formal leadership training in command training schools and at a specialised leadership training school. The specialised “Central School for Leadership Development” employs professionals and academics of the Tel-Aviv
University. Their leadership training focuses on the Army officer whose career progresses through the Israeli Army after three years of service as a soldier.

The Israeli Army introduced transformational leadership workshops for infantry officer cadets after conducting preliminary research into the leadership functions of the platoon commander. They focused on the infantry because of their high level of initial follower motivation and hence their high level of potential motivation transformation. Infantry soldiers in the Israeli Army are all volunteers and their units are considered elite. They operate in an environment which utilises complicated technology in simple instruments which means that technology does not significantly influence their productivity. Soldiers are constantly exposed to their platoon commander who therefore has the potential to strongly impact his personality upon them (Popper, et al., 1992).

The transformational leadership workshop was found to be very successful over six training cycles which spanned 18 months. "Almost all the cadets stressed that the central transformational leadership message is inspiring, important and clearly understood . . . Almost all participants agreed on the importance of the workshop in formulating their leadership philosophy" (p.7). Follow-up questionnaires saw a shift in the overall rating of leadership training on a five point rating scale from a mean of 3.3 for traditional leadership to 4.1 for transformational leadership.

Leadership vs Management

Management is defined as "a process of establishing and attaining objectives to carry out responsibilities. Management consists of those continuing actions of planning, organising, directing, coordinating, controlling and evaluating the use of men, money, materials and facilities to accomplish missions and tasks" (Leadership—Theory and Practice, 1973, p.IX).

So how does leadership differentiate from management? General Louis H. Wilson summarises the distinction between leadership and management in Fitton (1990):

"Obviously, a good leader is a good manager, but a good manager in the narrow sense of the word is not necessarily a good leader. Managers imply to me those who are more of an administrative sort, whereas leadership implies all the broad aspects, which is getting others to do what you want them to do even though they might not undertake the task of their own volition" (p.161).

Hunt (1984) notes that leadership and management are strongly distinguished in the military. In organisational literature, leadership and management are often interchangeable terms. Hunt believes that understanding managerial and leadership behaviour could enhance leadership models.

To effectively lead it could be argued that management skills are required, but an effective manager does not necessarily have to be a skilful leader. As Cronin (1984) discerns: "Managers are concerned with doing things the right way. Leaders are more concerned with . . . doing the right thing" (p.196). While only a small proportion of people are involved in management, virtually everybody is involved in leadership either as a leader or follower. Beaton (1990) argues that an organisation's effectiveness depends upon having the right balance of leadership and management and that the two require different, but complementary skills.

The most significant difference between transformational leaders and managers is their attitude towards change. Managers try to maintain the status quo, whereas transformational leaders are instrumental in visualising and implementing change.

Can Leadership Be Taught?

Some say that leaders are born and not made, that they possess innate qualities of leadership. Others believe that leadership can be taught, and use examples of once obscure people who rose to fame, such as Hitler, to demonstrate their point. The military operates on the belief that natural leaders can be selected and then developed by formal and informal leadership training. Formal training occurs by instruction in the functional approach to leadership. Informal training occurs by making mistakes on the job, from having mentors and from playing sport.

The approach of selecting natural leaders for the military and training them in leadership skills could be developed beyond current transactional skills training. Bass and Avalio (1990, as reported in Atwater, et al., 1991) suggests that qualities of charisma, for example, can be nurtured in leaders by training. Tichy and Devana (1986) believe that transformational leadership is a behavioural process that can be learnt. They propose that there are three stages required for learning transformational leadership. Firstly, the leader must recognise the need for change and overcome resistance to it. After personal introspection, the leader should facilitate analysis and introspection of his work unit. Secondly, a motivating vision needs to be created.
to mobilise commitment. This needs to be done in an environment that encourages creativity as opposed to being highly critical. The transformational leader must create the opportunity for followers to visualise. Thirdly, the change needs to be institutionalised. Tichy and Devana provide examples of managerial workshops that have been implemented to create leadership momentum to assist this change.

**Implications for Military Leadership Training**

Bass (1985) conducted a study in which he asked senior executives to describe a transformational leader they had encountered in their career. He found that: “Total commitment to and belief in the organisation emerged as consequences of belief in the leader and heightened self-confidence... The leader provided a model of integrity and fairness and also set clear and high standards of performance” (p.33). He conducted a similar study on US Army officers and found that transformational leadership was observed to be more evident in combat than support units. Unit effectiveness was also highly correlated with transformational than transactional leadership factors. Implications of Bass’ work are obvious. In leading soldiers to battle, a leader must have total commitment from the men under his command. In implementing military force structure changes, leaders must be able to overcome resistance to change. In introducing new technology a leader must be able to initiate acceptance.

The Army’s move towards directive control is a step in the right direction towards inspiring battlefield leaders to exercise their initiative, self-reliance and vision. By training leaders to think like their commanders they can respond to changing battle conditions with their own plans. Their plans will be consistent with their commanders’ by analysing mission statements but it allows leaders under command to use their own initiative if this is appropriate to the situation. Germans call this “Aftragstaktik” (Cavazos, 1984).

Owen Jacobs (1984) suggested a range of skills that a “future” military leader should possess. His list included the need to constantly re-examine alternatives, the need for more initiative and flexibility with less sensitivity to rank differentials, the need for higher technical competence, the need to generate higher levels of unit cohesion, the capacity to operate autonomously and learn from mistakes, and the need for greater flexibility and adaptability. His list clearly implies the need for more than functional leadership and management skills. Transformational leadership appears to be in tune with Jacobs’ concept of a future military leader.

Transformational leaders raise the need for “self-actualisation” in individuals. However, leaders need to liberate themselves by having insight into their own weaknesses before they can liberate others. They therefore need to have an understanding of their own strengths and weaknesses before they are able to effectively “transform” others (Cronin, 1974). Despite criticism that questionnaires on transformational leadership have developed without a valid research base they could be a useful training tool for leaders’ self-insight and unit assessments. Bass and Avolio have developed a Multi-factor Leadership Questionnaire (MLQ) to assess transformational leadership qualities. It is a short test requiring approximately 15 minutes to administer. The MLQ can be readministered to monitor leadership progress of the individual or group. This could be useful in evaluating the impact of a transformational leadership training programme and individual progress.

In summary, there appears to be a lot of evidence to support transformational leadership training for the military. Bass’ work shows positive benefits of transformation leadership for military leaders. The Israeli Defence Force has demonstrated that transformational leadership training is beneficial for their infantry platoon commanders. Transformational leadership also has a proven track record in organisational settings outside the military. It could be therefore argued that leaders in all areas of the military would benefit from training in transformational leadership, not just those in combat units.

Support is generally held for initial training in transformational leadership skills. Any training in transformational leadership skills should be implemented into the military after experience has been gained in transactional skills. For example, a suitable time frame for the introduction of transformational leadership into the Army could be the Junior Staff Course.

**Conclusion**

Training in transformational leadership offers some hope for extending the skills of military leaders. The military needs to encourage the development of dynamic leadership traits and skills in addition to functional leadership skills. Functional leadership provides a foundation for leaders to motivate and manage their followers, but it is transactional and management oriented. Leadership training should consist of more than training in the functional approach to leadership and
the principles of leadership. The military should look towards developing leaders that are able to respond to crises with vision and provide visions for the future.

**Recommendation**

A transformational leadership training programme should be investigated for military leadership training. The programme should be additional to transactional leadership training that is already conducted in the military.

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*Captain Chris Clay completed her Bachelor of Arts (Honours) degree at the University of Western Australia in 1985. She joined the Australian Army Psychology Corps in 1986 and has served with psychology units in Adelaide, Kapooka, Melbourne and Brisbane. Capt Clay was the first psychology officer to be posted to the Northern Territory (in 1989). She is currently a Student Counsellor at the Australian Defence Force Academy.*

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**1993 RAAF History Conference**

- The 1993 RAAF History Conference will be held on Thursday 14 October.
- The venue will be the theatre of the Australian War Memorial, Canberra.
- This year's theme will be "The RAAF in the Southwest Pacific Area, 1942-45".
- The registration fee of $30 will include attendance, morning and afternoon teas, lunch, and a bound copy of the proceedings.
- As seating is limited and last year's conference was fully subscribed, early registration is advisable.
- For a copy of the registration form or more information, please contact The Air Power Studies Centre, RAAF Base Fairbairn, ACT 2600. Telephone: (06) 267 6563.
The Early Development of the Ejection Seat

By Flight Lieutenant David G. Newman, RAAF.

Introduction

The ejection seat is an accepted fact of life for most RAAF pilots. During the course of their flying training, all RAAF pilots fly in aircraft fitted with ejection seats. Pilots who go on to the world of fast jets such as the F/A-18 strap themselves into these seats on a regular basis. These pilots rely on the ejection seat to function as advertised when an inflight situation decays to the point of imminent catastrophe. Indeed, in the history of the RAAF a number of pilots have faced such dire situations and survived, thanks to the effectiveness of the ejection seat.

The development of the ejection seat was a direct consequence of the technological advances in aircraft design and performance that occurred during the Second World War. It was becoming clearly evident to those on both sides of this conflict that as aircraft performance increased, the chances of escape for the pilot were decreased. Pilots were in fact being lost because they could not physically escape from their stricken aircraft. They simply could not overcome the high G loads and windblast forces that their increasing high-speed aircraft were generating.

It became obvious that some method of assisted escape was necessary, pushing the pilot clear of his aircraft, in order to prevent the needless loss of pilots. Thus, the concept of the ejection seat was born.

Four countries, largely independent of each other, began working on the problem — Sweden, Germany, Britain and the United States. This article will detail the work done in these countries that led to the first operational ejection seats from which today's highly sophisticated seats have evolved.

Germany

The German Luftwaffe were arguably the forerunners in terms of developing an ejection seat for their fighter aircraft. As stated previously, increasing aircraft performance had highlighted the need for a form of assisted escape. Early experimental work in Germany into the problems of high speed escape only reinforced what the fighter squadrons were becoming all too aware of as early as 1939. At this time, a number of aircraft firms, including Focke Wulf, Dornier and Heinkel were approached by the Luftwaffe to develop an ejection seat.

Design and development work by the Junkers aircraft company led to the first installation of an ejection seat in an aircraft in 1941. Junkers in fact took out a patent for this particular seat.

The Heinkel company produced a seat in 1944 that was the culmination of some five years of detailed research into human tolerances for acceleration and rotational forces. This seat eventually became the standard German ejection seat. By the end of 1944, it was installed in a variety of fighter aircraft, including the Heinkel 162 and the Heinkel 219 Uhu (Owl) night-fighter.

In fact, the first successful ejections in Germany were by the two-man crew of a Heinkel 219 on 11 April 1944. Unteroffizier Herter (Sergeant-Pilot) and Gefreiter Perbix (Corporal, radar operator) were awarded a prize of 1,000 Reichmarks each by Prof. Ernst Heinkel for their efforts.

By the end of the Second World War, more than 60 emergency escapes had been made from German fighters using ejection seats. Several of these had been captured on the gun-camera film of Allied fighter aircraft, causing a deal of surprise.

Sweden

Work in Sweden was proceeding along similar lines in the early 1940s. Early seats were propelled by compressed air and in January 1942 dummy ejections using these seats were carried out using a B-3 bomber.

The J21 fighter was an indigenous aircraft design and made use of a pusher propeller. It made its maiden flight in 1943 and was equipped with a Swedish-designed ejection seat manufactured by SAAB. This seat was powered by a single-cartridge ejection gun.

Further refinements of the ejection seat were carried out as well as considerable research and development. Dummy ejections using a ballastic catapult design were conducted in February 1944 using a Boeing B-17 bomber.
With fully-operational ejection seats fitted to their fighter aircraft, the Swedish Air Force did not have long to wait for their first emergency ejection. On 29 July 1946, the pilot of a J21-A fighter encountered an inflight emergency and successfully ejected from his stricken aircraft.12

**Britain**

The idea and concept of the ejection seat were well known in Britain throughout the early 1940s. However, it was only in 1944 that the development of the ejection seat in that country took a quantum leap forward.13

The death of a test pilot in January 1944 perhaps acted as the catalyst for production of the British ejection seat. While test flying an early Gloster Meteor jet fighter for the Royal Aircraft Establishment, the pilot was faced with an emergency and forced to abandon the aircraft. During his attempt at bailing out, using the standard “over the side” procedure, he was injured and lost consciousness, and was unable to deploy his parachute with tragic results. This accident highlighted the problems associated with escape from high performance aircraft.14

Later that same year, the Ministry of Aircraft Production invited the Martin-Baker Aircraft Company, under the control of Sir James Martin, to design and develop an ejection seat in collaboration with the RAF Institute of Aviation Medicine. This joint venture led to rapid advances in British ejection seat development.15

Martin-Baker developed a test rig, consisting of an almost vertical 16-foot tower with guide rails for the seat to travel on in order to evaluate its designs. Work was carried out using this rig to determine suitable limits for acceleration and the amount of explosive propellant required.16

On 20 January 1945, the first dummy ejection was performed on this rig. The “pilot” was a 200lb weight strapped to the seat. This successful test-firing was followed by the first live test on 24 January 1945. One of the company’s fitters, Bernard Lynch, was shot up the tower to a height of four feet. Further tests resulted in a height of 10 feet being reached.17

A Defiant fighter aircraft was then procured for aerial trials of the ejection seat. With Brian Greenstead at the controls, the Defiant successfully ejected a dummy “pilot” on 10 May 1945.18

The 24th of July 1946 was an historic day for British ejection seat technology. This was the day that the fearless Bernard Lynch made the first live experimental ejection from an aircraft in Britain. At a height of 8000 feet and a speed of 320mph IAS, Lynch ejected from the rear seat of a specially-modified Meteor MkIII and is said to have made a perfect landing.19,20

During the course of further research and development, he went on to make scores of ejections from test aircraft with great success.

In June, 1947, the decision was made to adopt the Martin-Baker seat for widespread installation in RAF and Royal Navy aircraft. This Mk1 seat was soon fitted to aircraft such as the Meteor, Canberra and Sea Hawk.

The first British emergency ejection took place on 30 May 1949. The aircraft involved was a prototype flying wing.21

**United States**

The United States was by no means merely a spectator in the design and development of the ejection seat. In 1945, just after the end of World War II, a US team led by W.R. Lovelace II, travelled through Europe on a fact-finding mission. They returned to America with a wealth of knowledge, a Swedish J21 seat and a Heinkel 162 seat. Not long afterwards, following some preliminary investigations in the US into ejection characteristics, the first American ejection seat was produced. This first seat was by all accounts similar to the German Heinkel seat.22

The first live ejection from an aircraft in the United States was carried out by First Sergeant Lawrence Lambert on 17 August 1946, over Wright Field, Ohio.23,24,25

The United States Navy, meanwhile, had been conducting developmental work in conjunction with the Martin-Baker company. This culminated on 1 November 1946, in the first successful US Navy live ejection, when LT Furtek, USN, ejected from a Douglas A-26 over Lake Hurst using a Martin-Baker seat.26

The first emergency ejections from aircraft of both services occurred exactly three weeks apart in 1949. On 8 August, a Navy pilot ejected from his McConnell F2H-1 “Banshee” fighter after the engine flamed-out. On 29 August, a USAF pilot successfully ejected from his out-of-control F86 “Sabrejet”.27

**Conclusion**

In less than ten years, a significant breakthrough in the problem of escape from high performance aircraft was made with the development and introduction into
service of the ejection seat. This technological mile-
stone essentially arose out of world conflict; as the war
effort generated increasingly complex aircraft, the
need for, and development of, the ejection seat were
both realised.

In principle, the ejection seats in use today are basi-
cally the same as those early seats of 50 years ago.
Modern ejection seats have simply evolved to become
more automatic, reliable and capable versions of the
original seats.

Thousands of pilots around the world owe their
lives to the ejection seat. Martin-Baker seats are the
most widely used ejection seats in the western world
and have saved in excess of 6000 pilots to date.²⁹

There is little doubt that as aircraft continue to
become more high-performance, the number of pilots
who have been saved by the ejection seat will grow.
Pilots of such high-performance aircraft can feel secure
in the knowledge that the effectiveness of the ejection
seat as a life-saving device is well proven.

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In his Recollections of the Roving Staff Officer, John Buckley casts his eye over the dreadful, almost unbearable conditions in the desert fighting of 1941 and other incidents.

A seasoned observer, he relates the destruction caused by the V Weapons on London and the wreckage of Europe after the war.

Recollections of the Roving Staff Officer is available from the Australian Defence Force Journal for $30.00.
Economic Aspects of Defence Acquisition

By Paul Earnshaw, University of Canberra.

Introduction

There is no doubt that nations perceive a need to defend themselves and that all nations contribute a part of their national income and expenditure to defence. Differences in the various levels of defence resource allocation usually result from different perceptions of threat, geographical and physical characteristics, including the wealth of the country. While nearly everyone desires the elimination of all wars and conflict (including the vast majority of military personnel), in today's world this would appear too idealistic and optimistic. It is, therefore, accepted that Australia must have some form of defence; it is the precise form of defence and the amount spent to achieve or maintain it that usually creates emotive and often divisive discussion.

To deal with this issue comprehensively would be a prodigious task, one that is beyond the scope of this article. However, what is relevant is the extent to which Australia, as a whole, benefits from the acquisition of major capital equipment by defence.

Budget Allocation

Political budgetary and spending choices are always value-laden. In recent years, with the onset of the economic recession in Australia, the choices of some politicians and community groups have been expressed in terms of significantly reducing defence funding (in both absolute and relative terms) in order to increase the funding of other areas of government expenditure: to create employment opportunities, increase assistance to the disadvantaged, and increase aid to those nations in desperate need. The choices are often couched in emotive terms, such as the number of hospital beds that can be bought for the price of a new weapon system, or the number of jobs that could be created in industry if some form of subsidisation could be effected by using funds from the defence budget.

Defence has difficulty in fending off such political attacks because there is no forecast threat, as far as the public is aware, to justify a particular level of defence funding. It is also difficult to place defence (in the absence of a perceived threat) within a cost-benefit analysis model to support current levels of funding. What develops is a confused debate: the allocation of resources (which belongs in the economic sphere) is related to value-laden choice (which belongs in the political sphere) (Gansler 1989:87). While this discussion is clearly more political than macroeconomic, the economic issues are, nevertheless, very important. Underpinning the basis of choice is the belief that defence funds can be re-allocated with no appreciable effect on the economy or the nation's economic well being. The point, therefore, requires examination.

The Shaping of Defence Expenditure

Defence is the quintessential public good (Lee 1990: 24; Hummel and Lavoie: 38), and as such, the benefits of national defence are received by every Australian. Even though some individuals or groups might not wish to be protected or defended (particularly from some imaginary threat), everyone contributes to the cost of defence — principally through the taxation process. Since government is responsible for allocating revenue to various ministries and programs, government is also responsible for acting on the public's preferences for particular programs as expressed through the electoral system.

But the political process itself insulates the defence organisation from public demand. The public's preferences for particular military programs or projects will not, therefore, be a controlling factor in acquisition decisions (Lee 1990:25-26). The general public's expectation of some form of defence will, however, justify the need for defence expenditures so that the public will usually rely on the professionalism of the defence organisation to determine such specific needs. In this insular environment, "the military-industrial complex is able to shape the details of particular military programs" (Lee 1990:26) with very little influence, if any, from public preferences.

The shaping process of programs occurs for two reasons. The first is associated with military effectiveness. Because Australia has a low level of population when compared with its neighbours, and no readily
Discernible threat, there is a tendency within acquisition proposals to include multi-role capabilities within a single piece of hardware. This increases the weapon system's complexity and cost. Secondly, industry promotes this approach because it offers opportunities for technological development and industrial competitiveness. But since large acquisition contracts are awarded only infrequently, industry is also concerned with maximising its profits and its market share of defence business. The result of this military-industrial shaping, is that defence proposals constitute “state-of-the-art” high technology producing complex weapons systems which provide industry with substantial profits (Lee 1990:29), and which tie recurrent “down stream” expenditures to particular companies. The corporatisation or privatisation of the majority of government-owned defence industries in recent years in Australia has further encouraged this shaping process and increased the need for companies to generate a greater return from investment in new technology.

**Defence and Industry**

From time to time, governments use defence to pursue objectives other than those of military effectiveness (see, for example, Peck and Scherer; Kovacic; Lindsay; Morris and Hough; Luffman and Reed; and Bolton). When the concept of defence as a public good is added to this consideration, it should be possible to identify the benefits that flow directly to society through the acquisition of major capital equipment. The obvious benefit received is, of course, that Australia has not been threatened militarily for about 50 years, thereby allowing Australia to pursue its economic and other national goals relatively freely. The other benefit is a little more obscure, and that is the maintenance of strategic industrial capability and capacity to ensure the availability of essential goods and services in time of threat or conflict; the benefit resulting from this approach is usually not economic but political.

Some influential groups argue that defence utilises production capability and capacity that could be better employed for other purposes (see, for example, Shelley 1990:41-42). This is sometimes referred to as the “Guns versus Butter” debate. It is, therefore, appropriate to evaluate the government's use of defence funding to benefit society in non-defence areas.

There is a substantive argument (primarily from the United States) which associates national industrial and economic development with the production of defence materials (Smith 1985:4). However, the contrary argument is offered by Dumas (quoted in Gansler 1989:82), who posits that the disproportionate allocation of talent and research to defence has led to a decline in commercial innovation, rising prices, an increasingly non-competitive American economy and inflationary pressures. The issue, therefore, is not clear cut.

Pro-defence arguments focus primarily on the capital intensive nature of defence spending with its concomitant creation of a substantial economic multiplier. They point out that there is little difference between peacetime defence and non-defence spending in the ability to develop industry and stimulate the economy, or to create employment opportunities (Gansler 1989:82-83). On the other hand, Burns (1978) indicates that while increases in defence expenditure can stimulate economic development in some areas, it can retard economic growth in other areas. Leontief and Hoffenberg (1961:9) also postulate that given the same amount of spending, defence will "generate half as many jobs as civilian expenditures but 20 per cent more salary dollars". The reason for this is that defence provides very few opportunities for non-skilled workers and draws disproportionately on the very limited resources available nationally for highly specialised work (Gansler 1989:82-83). Consequently, defence is generally a poor medium for the reduction of unemployment in the unskilled work force.

**Defence and Productivity**

Three key areas need to be examined when identifying or considering the causal relationship between defence expenditure and national productivity: manufacturing technology (advanced manufacturing tools and techniques), research and development (leading to product innovation), and management innovation (through the development and application of new management techniques) (Gansler 1989:87). According to Schumpeter (1942), development and innovation in these areas leads to increased national productivity.

A positive effect overall on industry and the economy, therefore, is that defence requirements have led to the development of technology that has substantially influenced and increased productivity in non-defence areas and even created new industries and opportunities. Such innovative defence developments are readily found; for example, computers, semiconductors, jet aircraft, and satellite communications. Since defence and space technology innovations are closely related, particularly in the US (Augustine 1991; Packard 1991),
it is appropriate to extend discussion to the technology "spin-offs" of space programs. In the late 1960s, the National Aeronautical and Space Administration (NASA) identified 2,500 individual technical innovations that were of potential value to non-aerospace industries; while 18 new professional and blue-collar occupations were acknowledged to have been derived from the space effort (Berkowitz 1970:276). A study by R.W. Prehoda (quoted in Berkowitz 1970:285), identified the transfer of a number of specific items of equipment developed from space research that were now in private sector use; and Bayce (quoted in Berkowitz 1970:285) found that NASA's work in materials provided the potential for a major impact on non-space industries, especially in areas of power generation, communications, transportation, and, to a lesser extent, health care. Defence expenditure on research and development associated with major capital projects, therefore, can "set the pattern for technology — industrial and otherwise — over succeeding decades" (Peck and Scherer: v-vi). As Professor Slatyer (1991), then Chief Scientist of the Economic Planning Advisory Council, noted, "industrial competitiveness in advanced countries depend[s] increasingly on technological innovation".

The argument that even without defence stimulus these developments would have occurred cannot be substantiated. Private capital is usually not forthcoming for very expensive and risky long-term investment. Furthermore, as Gansler (1989:92) points out, "In many cases, the choice is not between defence and civilian stimulation, but between defence and no stimulation". Nevertheless, while research also indicates a positive link between defence procurement and growth in personal income, it is a very weak link (Bolton 1966:104).

Demands by defence for new and complex high technology systems militates against production efficiency (Gansler 1989:91), and this fact increases the cost of defence acquisitions significantly. Since not all defence-related high technology is required by the commercial sector, there are few opportunities to reduce the cost of equipment. One of the major reasons for this is that defence focuses almost solely on performance characteristics. There are good reasons for this: if millions of dollars are to be spent on a new system, then it must work properly; once the system has been developed, it is likely to be in service for 20 years or more, so state-of-the-art technology and performance represents insurance against early obsolescence of the system and ensures the effectiveness of the system for long periods of time. It contributes to the "force multiplier" effect of the system and deterrence. The qualitative superiority of the weapons inventory can be maintained or improved by exploiting significant technological advances and there is a substantial element of prestige associated with such developments. Consequently, less emphasis is placed on the cost and quality aspects of new systems, except as they relate to performance. Conversely, the quest for greater performance and reliability has resulted in high-cost systems which dramatically narrow the market for the product (Gansler 1989:91).

### Project Considerations

In recent years, new policies, practices and systems have been employed for controlling and managing the spending on major defence acquisitions. It is paradoxical that many of the management techniques currently used by defence are adaptations of private sector practices, and that these private sector practices are derived from technologies developed by defence (primarily in the United States). Examples of such technologies are the planning programming and budgeting system (PPBS) more commonly referred to as program management and budgeting (PMB), systems analysis, cost-benefit analysis, operations research, critical-path method (CPM), program management, program evaluation review techniques (PERT), and most recently, total quality management (Kennedy 1983:21). However, even with the use of these management systems, in Australia and in the US "the defence sector's techniques are more geared toward achieving maximum performance with advanced equipment than toward improving quality and lowering costs" (Gansler 1989:92). The reason for this can also be identified. The personnel who develop and submit the acquisition proposals for government approval are concerned primarily with performance. In the main, they are operators, or past operators of the type of system being acquired, and so they are specialists in their areas (such as pilots, submariners, and tank commanders), all of whom have very close associations with the use of systems "in the field". Additionally, program or project executives (including project managers) are usually operators or past operators of the type of system to be acquired. The focus on performance rather than cost and quality is, therefore, inherent in the defence acquisition process and is reinforced by the subordination within the organisation of those concerned with other factors, such as cost and quality. While it is the specialists/operators that often drive the demand for technological innovation, the preference for "increased performance has been paid for by an
even higher rate of increase in unit production costs” (Gansler 1989: 172).

Despite the references to, and the evidence of, the potential transfer of technology and innovation from one sector to another, the correlation between defence and non-defence industry innovations is not sufficiently clear to derive any substantive conclusions. There are two main reasons for this. Firstly, there has been no definitive study summarising the number and value of commercial innovations traceable to defence research and development. Even if such a definitive study had been conducted, the relatively few innovations to come from military/space research and development (R&D) could not compare with the growth of entire industries stemming from such discoveries as aluminium processing, synthetic fibres, television, or plastics (Berkowitz 1970:291). Secondly, the Defence Department has shown relatively little interest in identifying military technology being used in the private sector (Berkowitz 1970:276).

What can be shown, however, is that the new technologies and work-related skills developed in Australia as a result of defence acquisitions have enabled Australian industry to compete in world markets, both for defence and non-defence work. The aerospace sector of Australian industry (particularly the recently privatised company, Aerospace Technologies of Australia [ASTA]) is indicative of such innovation. Nevertheless, it is still not clear whether defence expenditure has been the crucial and decisive influence in the enhancement of such industrial capabilities.

There is also no absolute agreement among analysts as to the effects of defence expenditure on the economy: the arguments about the impact of defence expenditure on national productivity are similarly complex and ambiguous. But it is agreed that defence expenditure is not a major component of the general growth of industry and rarely does defence expenditure provide the stimulus for general economic growth (Bolton 1966:101). In a negative sense, a great deal of industrial capacity is consumed by defence production, which could otherwise have been used for other purposes. While this “crowding out” of capacity and exogenous income reduces the potential for greater economic growth, the economic growth of some areas and industries would not have been as great had not defence created demand for goods and services in those areas and industries (Bolton 1966:101 and 103). Additionally, such crowding out occurs slowly, because defence expenditure is usually spread over several years and the peacetime capacities of defence-oriented industries are traditionally very specialised and underutilised. Consequently, even critics of defence spending have found that “there is no evidence that defence spending actually destroys employment in civilian sectors of the economy” (Adams, July 1987:3).

Furthermore, defence materiel is not nearly as cost-sensitive as domestic consumer products, which are subject to market forces and the influence of supply, demand and the ability of consumers to pay for the product. Provided that the government collects the taxes to pay for defence acquisitions, the effect will not be inflationary and Australia can have both Guns and Butter. As Greenspan, the former chairman of the US Council of Economic Advisers, observed, “This is not a zero-sum game” where one positive development leads to a negative development in another area (Washington Post, 3 September 1981).

**Conclusion**

Defence does exercise a net economic stimulus and this creates an unspecified multiplier effect throughout the national economy. In Australia, this premise would apply more readily to the more industrialised and technologically advanced industries and states. The policy choice of whether the government buys guns or butter, or guns and butter is, therefore, not economically important (Gansler 1989:84). The claim that defence expenditure is “unproductive” and inflationary is a myth, and the “Guns versus Butter” debate is misleading (Gansler 1989:83-84).

Having reached these economic conclusions, the final point in this discussion can be made, and that is, that the primary purpose of defence expenditure was never intended to increase the nation’s Gross Domestic Product (GDP). If the government were critically concerned with expanding the technology base of important industries and stimulating innovation and productivity, there are far more direct ways than through the spillover efforts of defence procurement (Berkowitz 1970:285). Even though, as a secondary measure, defence has contributed to general productivity gains, defence expenditure should not be measured against this secondary bonus. The measure should be what defence expenditure has done for weapons development and the contribution it has made to improving the nation’s defence posture (Berkowitz 1970:274). In Australia, the Defence Organisation has a very good record when such measurements are applied (as evidenced in the annual Defence Reports submitted to Parliament).

Although general economic benefits can stem from the use of defence procurement as a means to achieve gains other than military effectiveness or efficiency,
other economic policies which apply other instruments to economic problems are more suitable and effective (Bolton 1966:149-150). One reason for this is that the bulk of the defence budget (more than 80 per cent) is allocated to personnel payroll requirements and recurrent expenditure (that is, maintaining existing capabilities, facilities, etc.), and neither of these can rapidly be reduced (Gansler 1989:79). The defence budget is also remarkably resilient to political attack and does not offer the potential for radical reductions in expenditure with the consequent transfer of funds to other areas. Additionally, the list of high priority defence projects waiting for funding approval substantially exceeds the amount that government is able to allocate. However, funds can usually be found by the defence organisation within its budget allocation to supplement its own projects and programs; this is possible because defence is able to scrutinise its own activities and to transfer funding from one defence area to another. The recent relaxation of Australian public sector financial guidelines has contributed greatly to such flexible arrangements.

When considering policy choices concerning the economy, the defence budget, and industry productivity and competitiveness, research in the US is instructive. For example, Gansler (1989:93) provides some exceptionally important economic insights that are relevant for Australia today:

"Reductions in defence expenditures are not the panacea for ... record budget deficits ... enormous debt figures result primarily from broad tax cuts ... and from high and growing non-defence spending by the federal government (even in the Reagan years of very high defence spending the) defence build-up was a small contributor (to the national debt)."

Even the largest possible cut from the defence budget would not significantly reduce the level of national debt. The effect of such a cut would, however, substantially influence the defence acquisition program, primarily through delayed expenditure and the postponement of planned acquisitions. The effects of such a decision (assuming, of course, that proposed new weapon systems are actually required at some point in time) will be threefold: to reduce defence capability (thereby decreasing the level of deterrence and increasing the potential for threat, as well as political controversy); extend acquisition lead times (which will result in higher costs “down stream”, increase contractual and industry workforce problems, as
well as increase the demand for defence funding in a "catch up" situation; and compress the time available for R&D production (placing extreme pressure on limited Australian industry capability, and increasing the volume of direct overseas procurement) once funding becomes available. Thus, a reduction in the defence budget to enable an increase in other areas of government expenditure will adversely affect defence planning and capability, cause a multiplier effect in defence spending, lead to industrial uncertainty and discontinuity, suppress the national economy, and increase national debt.

While it is not the purpose of this article to argue against or in favour of particular levels of reductions or increases in defence acquisition expenditure, the evidence is sufficiently clear to formulate a specific proposition. Reductions in defence budget allocations will not stimulate the overall economy, but will lead to increasingly urgent demands for additional defence funding, and variations in expenditure will influence the rate of technological innovation within industry. The results of this process will have an appreciable negative effect on industrial viability and competition, the economy and the nation's economic well being. The opposite is, of course, the basis for the government's resolution: in order to increase industrial productivity, Australia must substantially increase its capital investment.

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Since leaving the RAAF, he has worked as a Research Officer in the Centre for Research in Public Sector Management, University of Canberra, and as a part-time lecturer and tutor in Public Administration and Management at both the graduate and undergraduate levels, also at the University of Canberra. In 1991, he was awarded a three year Australian Postgraduate Research scholarship to undertake doctoral studies. He will complete his PhD in Public Sector Management this year.

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By Flight Lieutenant G.B. Lyman, RAAF.

"You can never do too much reconnaissance."

General George Patton.

During the 1912 annual British Army manoeuvres, Hugh Trenchard and his flying instructor, Longmore, were airborne at the direction of General Grierson. Trenchard and Longmore, along with five other crews, were spotting for the northern force and attempting to locate General Haig, commander of the "enemy" southern force. "As they passed over a town in East Anglia, Trenchard's voice suddenly roared out above the din of the engine. Columns of men were streaming down a road like ants, their weapons and equipment glittering at every step. The enemy line of advance was reported to an incredulous Grierson within an hour of take off." The potential for immediate and rapid reconnaissance was obvious, the more so given that the cavalry, traditional means of reconnaissance, had been sent off in another direction. Immediately following the initial sighting of Haig's force, orders were written and despatched to the commander of the errant cavalry, General Briggs, who acted on the new intelligence at once. "Afterwards it was admitted officially that the manoeuvres had been largely influenced by the 'intervention of aircraft' which secured the initiative for Grierson. The pilots on Haig's side were no less active, but the advantage of surprise, once lost was hard to recover."

Trenchard's experience highlights principles which remain at the heart of reconnaissance and surveillance, as vital and applicable then as they are today. The primary purpose of reconnaissance is to prevent surprise. Other principles flow from this, the most pertinent being that, in order to prevent surprise, precise targeting or tasking information must be briefed, while sortie results need to be intelligently interpreted and rapidly disseminated.

Australia has a unique reconnaissance capability in the RF-111C, the qualities of the F-111C low-level bomber having been used as a sound foundation on which to build our reconnaissance platform. The ability of the F-111C to fly low-level, long-distance missions with a large bomb load give the RF-111C similar attributes but which translate into long, low-level missions with an extensive sensor fit and a large film carrying capacity.

Current ADF doctrine teaches future conflict involving the ADF will take the form of in-country, low-level conflict (LLC), or nuances thereof. This doctrine raises some interesting issues for the employment of what is essentially a strategic airborne reconnaissance platform. Is there in fact a place for the RF-111C in a LLC, and if so how could it be employed? Most importantly, what benefits can a commander, at any level, derive from the RF-111C?

An understanding of the differences between surveillance and reconnaissance will help place the RF-111C in operational context and give a better idea of how it might be utilised. Surveillance is the general search for opportunity targets or the monitoring of known targets. In many situations surveillance does not require a "man-in-the-loop" and surveillance Unmanned Aerial Vehicles (UAV) and satellites simply cover large swathes of land, the film later being pored over by analysts who may or may not find anything to report.

The ideal surveillance aircraft is one with long range, an attribute which can be translated into extended loiter time at shorter distances. This quality is often found in commercial airline airframes, some of the best surveillance aircraft being based on the Boeing 707. Indonesia uses a 737 airframe in a maritime surveillance role while the UK uses the Nimrod, based on the Comet passenger airliner. These airframes are often complemented by radar surveillance systems, the most celebrated example of recent time being JSTARS. When Iraq started launching SCUD missiles, JSTARS aircraft were used to detect the launchers. JSTARS could loiter, survey the area and attempt to detect the movement of Transporter-Erector Launchers which Combat Air Patrol aircraft could then attack. The TR1 "spyplane" with its synthetic aperture radar was also used to provide all-weather, day-night continuous battlefield surveillance in the hunt for the SCUDs.

Australia does not have this sort of radar surveillance capability packaged in an airframe although the Jindalee Over-the-Horizon-Radar provides an early warning surveillance function. In our inventory the aircraft which comes closest to fulfilling a surveillance role is the P3C which, inter alia, is used to survey large areas of ocean.

Surveillance is vital because it is the means by which analysts determine, establish and plot patterns against which unusual activity can be later measured, or normal
activity predicted. These patterns of normality serve no more exotic purpose than to prevent surprise. Before the start of the Gulf War, AWACS had flown their 400th hour of surveillance by the beginning of January. This work was vital in establishing patterns to later determine the extraordinary from the ordinary. Some would say that a dictum in warfare is that the need for reconnaissance becomes more vital as an enemy becomes stronger. However, it is the need for surveillance which becomes increasingly vital since surveillance provides the political leader and the military commander a knowledge of what is both normal and abnormal. While a single missile test launch was apparently unnoticed in the lead up to the Gulf War it would have been of more concern to miss the preparations for a massive type launch because these should be detected against patterns of normality established by surveillance. To miss such preparations would indicate that surveillance operations are not functioning as they should.

Reconnaissance

Those things which break the patterns, determined in the first place by surveillance, become the targets for reconnaissance. Reconnaissance, therefore, is not general, but directed at a specific target. An example of the surveillance-reconnaissance relationship was seen in the effort directed against HAWK missile batteries captured from Kuwait and removed to Iraq. Surveillance had determined what the normal air defence assets were in southern Iraq. Photo reconnaissance was used to determine new deployments, equipment serviceability and whether or not Jordanian assistance was being used to train Iraqi operators.

As part of the intelligence apparatus reconnaissance, like surveillance, is used to prevent surprise. Within this context reconnaissance is used to gain information on the enemy and can even be a means of determining the progress of friendly operations, but is especially useful as a source of technical information. For example, a commander wishing to know whether a bridge is capable of supporting his logistic baggage can determine the practicality, or otherwise, of his planned route by using air reconnaissance-sourced information on the size, structure and repair of the bridge.

Technical information can be supplemented by the reconnaissance aircrew. While technology has ensured a place for the surveillance UAV, there is still a requirement for “man-in-the-loop” operations. Aircraft flying reconnaissance “offer an immediacy and a flexibility that is not available to satellites, they bring crew judgement and observation into the tactical situation, and because the aircraft are usually standard tactical machines with only modest additional equipment, they are a cost effective option”.

Aircrew provide valuable judgement of the targets imaged. They can refly a target if cameras malfunction or can verbally pass on target information (an “in-flight”) which can be used immediately. This is followed up through a Visual Report (VISREP) which is debriefed at the end of their mission. The aircrew are able to observe more than just the target against which they are tasked and can alert friendly forces to other targets in the area.

Australia’s RF-111C Reconnaissance Capability

Australia has a unique reconnaissance — as distinct from surveillance — capability in the RF-111C. The features which set the RF-111C apart are: its extreme radius of action; its inherent capability; its load-carrying capacity (which allows a large sensor fit); and an ability to fly fast and operate at extreme levels of altitude. Its limitations lie in the fact that there are very few platforms. In a LLC it may well be used in strike rather than reconnaissance roles, although the RF-111C has retained the ability to drop bombs on one target and take photographs of another.

In 1975, the CAS observed: “At present we are deficient in the strategic reconnaissance capability. Our one squadron of Canberras has a limited photographic reconnaissance capability, but the aircraft performance falls far short of the requirement...”

As an initial step to overcome our present deficiency we aim to retrofit part of the F-111C force with reconnaissance pods. We realise that this small reconnaissance force will be less than sufficient in time of serious conflict, but it would enable us to keep abreast of the latest techniques and would form the basis of future expansion should this become necessary.

Australia retrofitted four aircraft with an internal camera fit, the initial engineering being conducted at Fort Worth by General Dynamics, the final three modifications being carried out in Australia at Amberley where the aircraft are flown by 6 Squadron (6SQN). Most significantly these aircraft are used in a tactical role for which they were not originally intended. However, they have proved particularly suited to this, taking
full advantage of the capabilities of low-level and stable flight coupled with long range and extended periods of loiter time.

The reconnaissance package includes a number of sensors, the large size and load-carrying capability of the F-111C allowing Australia to fit a varied sensor suite which provides redundancy in flight. Cameras are fitted for high and low altitude work and the aircraft can image targets at night. Moreover, the inherent stability of the RF-111C allows for exceptional quality of photograph regardless of altitude or speed.

In keeping with our definition RF-111C reconnaissance is directed at a specific target. A Brigade Headquarters may wish an update on the enemy Order of Battle (ORBAT); a concerned patrol commander may wish to confirm insurgent activity in his patrol area; the naval commander may wish to know what last minute deployments have occurred at the beachhead on which he is about to land. An air commander may desire pre and post strike target photography or wish to know whether or not an airfield is safe for inserting troops. In any scenario, RF-111C reconnaissance can provide almost immediate photographic evidence of what is happening while aircrew information can provide even more immediate information to the tactical or strategic commanders.

In the Gulf War, photo reconnaissance allowed commanders to out-manoeuvre Saddam with as little as 12-24 hours warning. In a LLC, Australian forces would most likely receive even less warning than 12-24 hours. Indeed, with no front line and a widely dispersed adversary, our response time needs to be rapid. In our strike-reconnaissance operations fresh images can be in the hands of strike crews waiting in their cockpits within 30 minutes of the RF-111C having its film downloaded. Understandably these images have undergone a minimum of interpretation to a great depth is often not required. The photographs confirm the target and provide the “flesh” to what has previously been only coordinates on a map.

It is this near real-time photographic information which can be valuable in even a LLC. A platoon commander can request photo coverage of a suspect enemy position without risking his men or stretching his resources. In the vast areas of north Australia this is vital. If sea, air or land surveillance has revealed the general whereabouts of an enemy, the RF-111C can be used day or night to precisely locate him and to monitor his movements. On Exercise K92, the RF-111C located Kamarian lodgement points, and even the Kamarians themselves.

Perhaps the greatest hinderence to the efficient use
of the RF-111C is the lack of understanding by those who could and should use it. Some request large swaths of country to be imaged. Others request copies of prints which can number in the tens of thousands, while some request imagery on a scale which is not interpretable. This is simply an issue of education, not only of what the aircraft is capable of providing, but of understanding such things as lead times, appropriate scale of imagery, communications, and means of distribution. Such education occurred during K92 and is an ongoing 6SQN commitment. It is of interest to note that this issue was raised during the Gulf War, an observer noting:

"Fully integrated training during peacetime is important to ensure that combat commanders have confidence in surveillance systems and know how to best use the data they generate."1

The aircraft does not exist as an end to itself, but for the customer first. The RF-111C, even in a LLC, provides a commander with an extremely useful tool provided he understands and appreciates what the RF-111C can do for him.

A vexing issue is that of dissemination. In the first place, commanders need to understand there is not always a need to insist on receiving prints. A readout from the sortie giving precise ORBAT or technical information can be transmitted within minutes of the film being examined. The production of prints and their distribution to the field only slows down the flow of information to hours, although the usefulness of prints is not to be denied.

Where there is a need to have prints, access to commercial technology should mean the dissemination problem can be addressed in the future.

In the Gulf War "revolutionary techniques... included the adaptation of new secure telephone units to pass voice data and pictures...." In fact the "deployment featured the most extensive use in history of intelligence imagery to support a military operation. This pictorial information [was] disseminated widely to all the military components including those at lower command echelons. This level and volume of dissemination on a continuous basis [was] the most comprehensive ever. In previous conflicts, such graphic information about the enemy was only available to national command authorities and select elements of regional unified and specified command headquarters."

Prints contribute greatly to the confidence of the commander in the field. He is able to see with his own eyes what the Imagery Analyst (IA) has highlighted on the film. Above all they provide the commander with an outstanding briefing tool which is invariably more up-to-date than the maps he is working with. A joint US/UK Special Forces raid into occupied Kuwait to seize a modified US SAM [HAWK]" would require precise location and enemy disposition data. What better briefing material for this mission than photographs?

However the commander is not restricted to the hard copy of prints and as noted above we also attempt to provide him with a rapid read-out of targets through the use of VISREPs. This has an early precedent.

"At Messines in 1917, a useful method for communication was introduced, namely, the issue to each observer of blocks containing quadruplicate copies of a map (1/10,000 scale) with carbon interleaved. The observer marked the position of the troops and dropped one copy at each Divisional HQ, one at Corps Report Centre, and retained the forth".19

The speed at low altitude with which the RF-111C flies dictates a VISREP is of the most rudimentary nature. Nonetheless, it has proved a useful source of immediate information which suffices until the returned film is processed.

Visual reporting is not restricted to dedicated reconnaissance crews. Any aircraft crew can provide information to the commander who needs it. The Argentine Air Force used 707s to monitor the progress of the British Task Force down the Atlantic.20 In the Gulf War, the US Marine F/A-18Ds were used against artillery. An F-18 would fly at 15,000 feet with the "guy in the backseat with binoculars [and, when a target was identified] three flights of Harriers or... Hornets would come in [from high altitude] and bust whatever the threat was..."21

As a general rule the limitation of using just any platform lies in the fact that they can only operate in a benign air environment, with perhaps the exception of F-18s and the likes of Apache helicopters conducting night reconnaissance as they did against Iraq. One of the advantages of the RF-111C is that it can still perform its reconnaissance function in a hostile environment. This is especially so in a low, escalated or even more substantial conflict, low-altitude and high-speed, combined with evasive tactics, enabling the RF-111C to elude a wide range of anti-air defence weapons and still return with images on film.

Be it hard copy prints, film read-out, or a VISREP which is being used, the commander ultimately draws on the skills of the Imagery Analyst (IA). The IA helps plan the RF-111C mission, selects sensors and calculates photographic coverage. At the end of the sortie the IA analyses the film and reports results to the customer. Above all, the IA's analytical skills provide the greatest benefit to the commander.

The IA is familiar with patterns. He is aware of
normal activity and so is better able to detect abnormality. In 1990:

"[imagery] analysts noticed shadows thrown by the antenna of a long idle Soviet-built air defence radar system in southern Iraq had changed length. They concluded the antenna had been turned on and issued what proved to be the first substantive warning of the 2 August invasion of Kuwait".22

His knowledge of normal activity ranges across a gamut of subjects. He understands the functioning of industries and infrastructure such as ports and harbours, refineries, railways, and other means of communications and support on which an insurgent might come to rely. As practised in the Gulf War, the targeting of those resources is a useful way to reduce the fighting capacity of the enemy.

"In very general terms, the allied war plan has been first to destroy Iraq's war making plants, command and communications centres and long range Scud missiles, as well as Baghdad's ability to resupply the 545,000 forces in Kuwait and southern Iraq".23

At the other end of the scale the IA is conversant with weapons systems. During basic training he learns to identify over 600 items of maritime, ground and air equipment-recognition training which is continued at 6SQN. He is trained to recognise that equipment even when it is disguised and it is no idle boast that camouflage has not beaten the combination of RF-111C and trained IA.

The IA is trained to scale and measure aerial film. This is a vital skill which a commander should use. Widths of alternative river crossings, the size of a Drop Zone, the heights of obstacles, masts, the thickness of bridge abutments — all can be measured with a high degree of accuracy.

Apart from simply being able to recognise, interpret and measure facilities and equipment, the IA is able to intelligently report them. In the context of a LLC in northern Australia, he could inform a commander that a captured police station is probably still occupied, that a captured power plant only has two of its four generators operating, that a supposedly sabotaged uranium mine is still refining small amounts of ore, or that an airfield is still operable in spite of apparent destruction of the runway. All these skills are applied in the context of wider training in ground and maritime operations, training which allows better comprehension of inter-service tasking, a quality not lost on those who operated JSTARS. In those operations:

"because the Army crew members thoroughly understood the enemy order of battle and [the] targeting process they provided tremendous insight to the Air Force crew members, many of whom had no experience with land warfare".24

### Conclusion

In 1912, the British Army added a unique reconnaissance capability to its manoeuvres which tilted the outcome in favour of those who used it. Seventy years later, the commander in Australia in any environment can use a similarly unique reconnaissance asset to assist his own operations. The RF-111C at Amberley can and should be tasked, even for scenarios such as LLC. The commander can direct the aircraft against any specific target or targets day or night and then draw on the combined efforts of aircrew and analyst to provide him with exact technical target data. In tasking the RF-111C, a commander can conserve and preserve his own resources while gaining useful intelligence for his own operations, no matter how wide ranging.

Australia owns what is arguably the most capable and unique tactical reconnaissance platform in the world. Use it.

### NOTES

1. Later renowned as the "Father of the RAF".
6. AWACs — Airborne Warming and Command (based on the 707 airframe).
11. This appears to have been the case in some instances when the Japanese used reconnaissance aircraft to determine how their forces were disposed across the fluid front lines of China in 1932.
Flight Lieutenant Bruce Lyman is an Intelligence Officer currently working with 6 Squadron, RAAF. He has a degree in MDef Studies. His previous writing on the significance of Australia’s involvement in the air war in Korea was published by APSC.

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Dust Off and Resuscitation in the Black Hawk

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Introduction

The UH-60A Black Hawk Helicopter was designed by Sikorsky Aero Engineering Corporation of Stratford, Connecticut, USA, in accordance with specifications based upon United States Army battlefield experience. The Australian Army derivative of this aircraft, the S-70A-9 (Fig. 1), together with the Royal Australian Navy version of the Black Hawk, the S-70B-2 Sea Hawk Helicopter, is in current Australian use. Since 1989, the S-70A-9 has been progressively displacing the ageing (but much respected) Bell Uh-1H Iroquois (“Huey”) Helicopter, and the Black Hawk now provides the battlefield helicopter capability for the Australian Army.

One of the three declared primary roles of the S-70A-9 is aeromedical evacuation of casualties (“AME”). This role has previously been performed under battle conditions, in several theatres, with great distinction by the Iroquois Helicopter. Surprisingly, there appears to be only limited unrestricted documentation of the Iroquois’ performance in a forward aeromedical evacuation (AME) role. This led to an earlier study at RAAF Townsville (Garbutt), in which simulated “worst possible” forward AME conditions for both casualty and aircraft were employed to test the aircraft with the then latest advances in CPR practice. The study was documented in the Australian Defence Force Journal. With the introduction of the Black Hawk, it becomes essential to repeat this evaluation, to define the presumed greater capabilities (as well as any limitations) of this more technologically advanced aircraft in the forward AME role, utilising Australian Defence Force (ADF) equipment.

Study Initiation

The team leader, SQN LDR J. Williamson (JAW), initiated the study with an Aircraft Research and Development Unit (ARDU) “Research, Development, Test and Evaluation (RDT&E)” Task Request.
The study was undertaken at RAAF Edinburgh, South Australia. It involved personnel and equipment from No. 24 SQN SR (MED) (GP CAPT R. Black); Permanent Air Force personnel from BMF (WG CDR S. Babu), Admin SPT SQN (WG CDR R. Adam), PAF and Army personnel from ARDU (GP CPT N. Ford), RAAF Edinburgh; and from No. 3 FGN, RAAMC, Keswick, South Australia (COL R. Atkinson).

The study team comprised: GP CAPT Black, WG CDR’s Capps and Griggs and Babu, SQN LDR Williamson, FSGT Matthey, SGT Tonkin and PTE Wangel. In contrast to the previous study on the Iroquois Helicopter, all members of the team had either advanced medical specialist or advanced paramedical retrieval and resuscitation skills.

As in the Townsville study, the resuscitation terminology and techniques employed in this project were consistent with current Australian Resuscitation Council (ARC) Policies. A recording manikin provided objective (real time, hard copy) evaluation of resuscitation performance, both during the static training phases (Fig. 2a) and during flight conditions (Figs. 2b & 2c). Unlike the Townsville study, but in accordance with worldwide out-of-hospital resuscitation trends, only mouth-to-mask techniques of expired air resuscitation (EAR) (Fig. 2b) were employed on the manikin, as opposed to direct mouth-to-mouth techniques. Nevertheless precautions against the risk of cross-infection between team members during manikin EAR were not relaxed. Additionally, the manikin had the more...
recent modification in which the rescuer's expired air was directed away from the mouth parts during manikin exhalation.

The dimensions of the Black Hawk platform are:
- width 2.13m [84"] at the open doors;
- length 2.6m [102"], but fore-art access through the open doorway restricted to 1.72m [68""];
- total working area for resuscitation activities 5.54 square metres [59.6 sq.ft.];
- vertical headroom 1.32m [52"].

Three major additions to this study were made feasible by the advanced retrieval and resuscitation skills of the participating team and by the larger aircraft platform in the Black Hawk. These were:
1. the feasibility of the bag-valve-mask technique of intermittent positive pressure ventilation (IPPV) on the recording manikin;
2. evaluation of three different ADF casualty transport stretchers for retrieval of the casualty to the aircraft under the simulated “worst possible” conditions (i.e., moving with maximum speed under possible enemy fire); and
3. evaluation of endotracheal intubation capability during flight.

1. Bag-valve-mask technique of IPPV

The use of this apparatus by lay first-aiders, especially for IPPV, remains controversial. This scenario is currently under consideration by the ARC. Nevertheless, it has proven advantages in the hands of skilled and regularly practised medical and advanced para-medical teams, by enriching the inspired oxygen concentration (FIO2). Only air (FIO2 = 0.2) or expired air (FIO2 = 0.16 approx.) resuscitation was employed. Manual IPPV was performed on the manikin under “ideal, static” conditions (i.e., in the briefing room), and its efficacy recorded (Fig. 3).

![Figure 2a](image)

The recording manikin in use on the NATO stretcher during two-man CPR practice, prior to in-flight conditions. Note the display screen indicating the resuscitator's performance.

![Figure 2b](image)

The same manikin in use on the DH stretcher, at the moment of lift-off. Note the use of mouth-to-mask EAR, and the real time, hard copy trace of the resuscitators' performance (see Figs. 3, 5a & 5b) emerging from the manikin's left side.

![Figure 2c](image)

CPR in progress on the manikin during evasive flight, developing negative "G". Note the angle of the horizon through the left hand side door, and the "floating" hair of the rescuer performing ECC.

![Figure 3](image)

Record of one-man, manual IPPV performed by a skilled and practised operator, under static conditions, using the bag-valve/mask apparatus. Ventilation is adequate, but achieved with difficulty (see text).
2. Stretcher litter evaluation

The three stretchers tested were the “Stokes litter” (Fig. 4a), the “NATO litter” (Fig. 4b) and the fold-up “Rescue litter” (Fig. 4c).

The shortest time for in-aircraft assembly of each litter by the two-man rescue team was recorded (Table 1). The shortest time from touchdown until the retrieved casualty in the litter was receiving effective CPR back in the aircraft as it lifted off, was recorded (Table 2): actual time taken to get the casualty into each litter once the rescue team reached his side, was also measured (Table 2). The two-man rescue team carried a live subject in the litter (Fig. 4c) to the waiting aircraft, to create the stress of real exertion immediately prior to CPR activities.

Upon arrival at the aircraft and during take-off, the recording manikin replaced the live simulated casualty, and two-man CPR was commenced, continued during evasive flight conditions (Fig. 2c), and recorded (Figs. 5a & 5b). In this study no oxygen supplementation during respiratory resuscitation, nor oxygen equipment, was employed in keeping with a “worst possible” simulation. The study ceased at the point when the aircraft landed in a simulated “safe area”.

3. Endotracheal intubation

Using a separate “intubating-head” manikin placed appropriately upon the litter in-flight, endotracheal intubation was performed (Fig. 6), checked for correct tube location, IPPV established with bag-valve-mask-air apparatus and the entire procedure timed.

An additional important problem addressed in this study was the restricted access in the Black Hawk caused by the current ADF seating configuration (Fig. 7).

Training preparation and work-up

The team spent the first day practising the skill routine and sequence in a briefing room, using a measured mock-up of the aircraft platform. The second study day was spent at the static Black Hawk aircraft, both on a tarmac and in a hangar. Actual in-flight conditions occupied the third and final study day (Figs. 2b & 2c).

Safety considerations

A Flight Sergeant loadmaster and a Flight Lieutenant accompanied the pilot in the aircraft throughout all flying manoeuvres (Fig. 8). A pre-flight team briefing by the team leader and a full pre-flight safety briefing by the pilot were conducted. Aircraft safety rescue harnesses (Figs. 2b & 2c) and either flying helmets and/or communication headsets were worn by team members during aircraft operations. This permitted communication with the pilot during flight. A separate ground-to-air communication radio system was also used. Helmets and headsets did not hinder efficient CPR. However, in the interests of trial validity, the performance of early and efficient resuscitation activities took priority over the donning of helmets and headsets in an urgent forward AME situation (Figs. 2b & 2c). The loadmaster secured the casualty’s stretcher without interfering with the resuscitation manoeuvres. Again in the interests of validity, in-flight resuscitation manoeuvres were evaluated with the aircraft doors both opened and closed with full attendant safety precautions. Rescuer harness attachment (or in the case of
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Return to Greece

Return to Greece is an Australian Defence Force Journal production highlighting the 50th Anniversary of the Australian Defence Force’s participation in the Allied struggle of the Greek Campaign of World War II.

In 1941, Greece fought for survival against the might of Germany. The Greeks, aided by Australian, New Zealand and British forces fought to ward off the invasion of their homeland. Return to Greece tells of these battles and of the Allied evacuation.

Return to Greece revisits the sites of the battlefields through a selection of 50 water colours and drawings. The book takes the reader on a journey with the veterans of the Greek Campaign through the country where they fought valiantly with their Greek comrades in defence of democracy. It illustrates the pride and professionalism of today’s Australian Defence Force personnel as they pay tribute to the memory of those who fought with such bravery and self-sacrifice in the cause of freedom in the dark days of 1941.

This book will rekindle memories for those who took part in the campaign of 1941 and also for those who participated in the return pilgrimage in 1991.

Return to Greece is illustrated by Defence artist, Jeff Isaacs with text by Michael Tracey.

Return to Greece is available from the Australian Defence Force Journal at a cost of $20.00.
Throughout the study, both static and in-flight, activities were photographed “rescuer-blinded” (i.e., with the rescuers oblivious to when and how they were being photographed; Fig. 2c), to record faithful performance details. During all in-flight evaluations a third team member, with a stopwatch and notebook, acted as an observer/timer/recorder in the aircraft.

Results

Removal of ADF seating

Four personnel, one practised, three unskilled, took three minutes 30 seconds to remove the ADF-configured seating (Fig. 7) from the aircraft.

Litter assembly

Time taken for in-aircraft assembly of each of the three litters evaluated in the study, is shown in Table 1.

<table>
<thead>
<tr>
<th>In Aircraft Assembly of Litters</th>
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<tr>
<td>Stokes Litter</td>
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<td>0 Seconds</td>
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Retrieval casualty to the aircraft

Simulated casualties were retrieved by two rescuers over a distance of 40 metres. They were then loaded into a position within the aircraft suitable for the commencement of resuscitation. The time taken for this process from touchdown to CPR position, is shown for each litter in Table 2.

Figure 6

In-flight endotracheal intubation on the NATO litter, using the “intubating head” manikin.
This entire manoeuvre included the following steps:

1. exiting the aircraft at touchdown with the assembled litter;
2. running to the casualty site;
3. rapid attention to the casualty’s airway;
4. loading the casualty onto the litter (and securing him, in the case of the Rescue litter, Fig. 2c); this step was timed;
5. lifting and carrying the casualty (using a two-man end-carry technique, Fig. 4c) to the waiting aircraft;
6. lowering the casualty onto the ground next to the aircraft to enable the rescuers to change to a side-carry position (Fig. 9);
7. lifting casualty and stretcher to platform height, avoiding a single side-mounted fuel tank, when present (Fig. 9);
8. pushing the litter diagonally into the aircraft (Fig. 2b);
9. each rescuer entering the aircraft and securing himself to the platform with his harness (Fig. 2c); the loadmaster simultaneously securing the casualty-laden litter to the platform; and
10. positioning himself beside or above the casualty for external cardiac compression (ECC) or EAR respectively, and commencing CPR (Figs. 2b & 2c).

### Table 2

Total retrieval time out and back (seconds) by two rescuers over 40 metres, from leaving the aircraft, until commencement of CPR in the aircraft. The time (seconds) taken to load (and secure, in the case of the Rescue litter) the inert casualty into each litter prior to transport to the waiting aircraft, is shown in brackets.

<table>
<thead>
<tr>
<th>Retrieval Time (Load Time)</th>
<th>Stokes Litter</th>
<th>NATO Litter</th>
<th>Rescue Litter</th>
</tr>
</thead>
<tbody>
<tr>
<td>175 (26) Secs.</td>
<td>175 (26) Secs.</td>
<td>334 (185) Secs.</td>
<td></td>
</tr>
</tbody>
</table>

**Endotracheal intubation**

Time from commencement of intubation to established IPPV, using the intubation head, was 15-20 seconds (n=6), under all conditions. Manual intermittent positive pressure ventilation (IPPV) of the manikin, using the self-inflating bag-valve-air apparatus directly attached to the endotracheal tube, was easily achieved in-flight via an intubated trachea.
One-man bag-valve-mask-air IPPV on the non-intubated manikin

This proved to be possible only with the greatest difficulty, due to a poorly obtainable seal between any mask and the face of the manikin, necessitating a large rescuer's hand and maximal bag compression against the rescuer's thigh, in order to achieve adequate vital volumes (Fig. 3). In-flight evaluation of this method of ventilation was not attempted (see below).

Efficacy of in-flight CPR, using mouth-to-mask EAR

Real-time recordings of in-flight, two-man CPR, including a two-man role changeover, are shown by Figs. 5a and 5b. These recordings were made during evasive flight conditions involving rapidly changing G-force conditions (Fig. 2c). Effective ECC was possible using all litters including the non-rigid NATO type (see below).

In-flight safety-related events

No alteration of performance of any rescuer or technique was observed as a result of the aircraft doors being open or closed during flying. However, one unsecured facemask was accidently lost from the aircraft platform through an open door during an evasive flight manoeuvre. Rescuer harnesses were hooked to floor-mounted attachment rings (Fig. 2b), and the patient litter was secured to the platform by the loadmaster.

Discussion

Preparation of the aircraft

As in the previous (Townsville) study, this evaluation assumed the aircraft was equipped for its normal forward area tactical role, with ADF seating, and no special preparation. Our aircraft had the additional, but not unrealistic hazard of two outside-attached extra fuel tanks ("jugs", Fig. 9). A casualty-laden litter cannot enter or leave an S-70A-9 aircraft equipped with four fuel "jugs". It would be necessary to detach the two inside "jugs" or to manhandle the casualty into and out of the aircraft — a major hazard in the presence of cardio-respiratory instability.

ADF seating configuration in the Black Hawk and in-flight resuscitation capability

This seating (Fig. 7) is incompatible with the establishment of effective adult resuscitation in-flight, at least under the "worst-possible" conditions examined in this study. Removal of most of the seating is essential prior to entry to the rescuers. It is also clear that seat removal may be time-consuming when performed by unpractised personnel.

Comparison of the three litters in a "rapid-rescue", forward AME role

This is a significant finding of the study. The Rescue litter is the least suitable of the litters evaluated for such a role. This study shows that its unpacking and assembly, even by practised persons, takes over one minute compared with no time at all for the other two stretchers (Table 1). Of greater relevance, the adequate securing of a casualty on it prior to lifting (Fig. 4c) takes almost nine times as long (Table 2). This is of special concern in terms of ultimate survival by a casualty with inadequate cerebral perfusion, or for an injured casualty in pain. Another disadvantage of the Rescue litter is that a large casualty (e.g. body weight/height 100kg/180cm) cannot be held stable on the stretcher during rapid lifting and carrying. The laterally directed carrying handles, flush with the ground, make it difficult to insert fingers underneath prior to lifting, and seem ergonomically disadvantageous during a two-rescuer end lift — the only lift possible using the handles (Fig. 4c). The loose straps require detailed and time-consuming attention while rolling the unconscious casualty onto the stretcher to avoid their becoming trapped beneath the stretcher. The headstrap on the Rescue litter seems to produce significant cervical compression in the long axis of the spine if the casualty is tall; repositioning of the casualty is undesirable in an urgent situation. Finally the short distance between handles compared with the NATO stretcher makes the loaded Rescue litter more difficult to control in the rolling plane, due to this narrow base of support and high centre of gravity. This problem would be exaggerated over soft, uneven ground. It is recommended that further controlled evaluation of the Rescue litter be performed to establish the limitations of this device, but the findings of this study cast doubt upon its value in helicopters.

Endotracheal intubation

The ability for airway rescue and maintenance in a casualty in an aircraft is fundamental AME information. The capability of every aircraft in service use, in this regard, should be tested and documented. Endotracheal intubation is indicated for the non-breathing casualty whose airway and/or ventilation cannot be otherwise maintained (unrelieved upper airway obstruction, trauma to the face, inadequate pulmonary compliance). Successful endotracheal intubation requires the necessary skills and instrumentation, but also a minimum amount of physical room for the intubator above the casualty's head.
In contrast to the UH-1H Iroquois, intubation in the Black Hawk is readily achievable by trained personnel using any of the three litters examined. It is necessary to place the casualty and litter diagonally on the platform to obtain adequate above-head access for intubation (Fig. 2b). An unskilled intubator would find in-flight endotracheal intubation difficult, principally because of vibration of both the visual field and the laryngoscope light beam. Two casualties on the platform would make access for intubation difficult, even for the expert. Unskilled intubators should maintain airway and ventilation with standard mouth-to-mask techniques, and should not attempt in-flight intubation, except in extreme emergencies (such as an otherwise unrelievable severe airways obstruction).

The minimal equipment to permit successful endotracheal intubation of an adult in the Black Hawk (or Sea Hawk) in flight consists of a functioning laryngoscope fitted with an adult blade (e.g., Macintosh), cuff ed endotracheal tubes sizes 7.0-9.0 inclusive with an inflating syringe and clamping forceps, a flexible introducer guide and a pair of Magill introducing forceps. Spares for all these items are recommended.

One-man IPPV using bag-valve-mask techniques

The level of skill required under the conditions created in this study would indicate that successful ventilation may be difficult or impossible using such apparatus without assistance. It is acknowledged that the findings of this study may reflect unsatisfactory mask-sealing properties of the material making up the manikin’s face. It is also the authors' experience that mask seal on a human face is generally easier than on present-day manikins. Further evaluation is warranted. However, for a non-breathing casualty, it would seem advisable in forward AME situations for an unassisted rescuer to use a mouth-to-mask technique and to restrict the use of the self-inflating bag-valve apparatus for IPPV to the intubated casualty.

In-flight resuscitation in the Black Hawk

This is clearly possible on one casualty, as it is in the Iroquois. Although this study did not evaluate a scenario with multiple casualties in cardiac arrest, simultaneous CPR on two casualties would be possible, provided highly trained personnel (male or female) were available, two to each casualty and with all platform seating removed. Endotracheal intubation significantly facilitates both respiratory and cardio-pulmonary resuscitation of any casualty. However, as mentioned above, in-flight endotracheal intubation would present great difficulties with two such casualties. It is noteworthy that despite the NATO litter’s supporting canvas being several centimetres off the ground, effective ECC is readily achievable (Fig. 2a).

Centrifugal (“G”) forces, rescuer and equipment safety, and in-flight resuscitation

Although it is clearly wise to secure all personnel, litters and equipment (including loose resuscitation equipment!) during flight conditions — especially with the platform door(s) open — none of the team members felt he was at risk of falling from the aircraft during the performance of CPR. As in the Townsville study, the aircraft lift sustained a firm downward force (positive G) on the kneeling rescuers, “locking” them to the platform deck. The “monkey” harness straps remained loose (Figs. 2b & 2c), making the location of attachment optional. Similarly, although the casualty litters were tied down by the loadmaster, no tendency of the litter to move was observed. However, the noticeably greater G-force generated by the more powerful Black Hawk did cause temporary compromise of ECC thrusts during maximum G, and briefly “unstuck” the rescuers during “nose-over” negative G — a problem not encountered in the Iroquois. Sustaining effective resuscitation during these disturbances was possible (Figs. 5a & 5b).

The important role of the loadmaster in strapping and securing all personnel and equipment (including casualties’ weapons) is emphasised. It is also recognised that the “monkey harnesses”, while permitting the essential mobility of the rescuers in the performance of resuscitation, offer no protection to the wearer in the event of a crash.

In-flight vibration

Once again, as far as CPR was concerned, helicopter vibration did not cause significant problems. Carotid pulsation on team members was readily palpable in-flight, but it is appreciated that such palpation of a casualty’s carotid pulse may be difficult or impossible in the presence of hypotension and/or hypothermia, under forward AME conditions. Consequently, ECC should be continued where uncertainty exists. In contrast to CPR, the ability to perform endotracheal intubation is degraded by aircraft vibration, especially for the inexperienced intubator.

Conclusions

1. The S-70A-9 Black Hawk Helicopter is capable of supporting the rapid retrieval and effective in-flight cardio-pulmonary resuscitation of at least a single
casualty from a forward area, under conditions of enemy attack and forward AME.

2. The success of such a venture requires a skilled minimum-two-person resuscitation team (either male, female or mixed), the prior removal of ADF seating from the platform area of the helicopter, and the absence of fuel tanks from the inside locations on the external stores support system (ESSS); outside-located fuel tanks are permissible. A loadmaster and co-pilot are strongly recommended for safety, as are in-aircraft radio communications to at least one rescuer. The presence of aircraft doors is immaterial from the rescue/resuscitation point of view, but is highly desirable; if present and functioning they should be kept closed in-flight. Moveable items must be secured at lift-off. The single casualty should be placed diagonally across the aircraft platform, from either side of the aircraft, to facilitate CPR. The success of such a venture requires a skilled resuscitation team comprised at least of advanced medically trained personnel.

3. In-flight endotracheal intubation is easily accomplished by experienced persons, but may not be by the untrained. One-man intermittent positive pressure ventilation (IPPV) using a bag-valve-mask apparatus is inferior to either mouth-to-mask EAR, or to bag-valve IPPV of an intubated patient, irrespective of the level of rescuer experience.

4. Flight helmets or headsets do not interfere significantly with the performance of either EAR, ECC, or endotracheal intubation during flight.

5. The Stokes litter and the NATO stretcher both proved satisfactory for casualty retrieval for the circumstances evaluated in this study. The Rescue litter was unsatisfactory and its use in helicopter activities evaluated in this study is not recommended. External cardiac compression is readily achieved on a casualty with circulatory arrest on all three stretchers.

6. Simultaneous CPR of more than one casualty in the Black Hawk under the conditions defined by this study is likely to prove difficult for any but the skilled. The same applies for endotracheal intubation.

7. This study model is suitable for the evaluation of the resuscitation capability of any aircraft platform under “worst-possible” forward area conditions of military combat.

8. Additional trials based upon this study model are indicated to further evaluate in-flight intubation, oxygen-supplemented resuscitation, rescue litters, and performance in conditions of darkness.

9. The capability of all aircraft in service use, for the rescue and maintenance of an unconscious casualty’s airway, should be tested and documented.

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NOTES

1. Air Movement Training and Development Unit. The S-70A-9 Black Hawk Helicopter. RAAF Richmond, NSW, Mar 89.


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The War Cruise of I-6, March 1943

By Lieutenant Commander D.M. Stevens, RAN.

Introduction

Though many people have heard of the Japanese midget submarine attack on Sydney Harbour in June 1942, comparatively few will be aware of the scale of the overall Japanese submarine campaign off the Australian coast. Between January 1942 and June 1943, Japanese submarines conducted at least 40 operational patrols on the Australia Station in various attempts to disrupt communications, create diversions and isolate Australia from the United States. The campaign did little to affect the course of the war, but the requirement for Australia to provide a counter to the operations meant a vastly disproportionate response in terms of manpower and equipment.

One of the least known of the Japanese exploits occurred in March 1943 when the submarine I-6 operated off the coast of Queensland for 10 days, sowing a small field of German-made mines in the approaches to Brisbane and attempting to interdict shipping. The operation was neither a spectacular success nor failure, but is significant in that it resulted from one of the very few examples of Japanese/German military cooperation during the war. The mission also provides an interesting insight into the way Japan operated her submarine fleet and the way the Australian anti-submarine organisation responded.

The Germans

Though political partners during the war, Japan and Germany did very little to assist each other in a military sense. This was not just due to a mutual distrust, but also to the very real problems caused by the physical distance between the two countries. After the entry of Russia into the war in June 1941, the only practical method of communication between the Axis partners was by sea, first by surface blockade runner and later, as losses grew, by submarine. Using these methods a very limited exchange of technical intelligence, military equipment and raw materials was undertaken throughout the war.

One of the early exchange missions began on 25 February 1942, when the German vessel Doggerbank left Bordeaux on a voyage to Japan. The Doggerbank was not specifically a blockade runner, it was instead designated a “Z-ship” and had been specially converted to supply provisions and munitions to surface raiders and U-boats in operational areas. The vessel was also fitted out to act as an independent minelaying and on this particular voyage was loaded with some 120 contact mines which were to be laid off the South African coast. However, also included in the manifest were 70 type “TMB” ground influence mines designed for submarine minelaying.

The Germans had developed the TMB in the mid 1930s and had already used it with some success off the American east coast, managing to sink several ships and forcing the temporary closure of some ports. The TMB had a smooth cylindrical body 2.3 metres long and 53 cm wide. It was designed to fit a submarine’s torpedo tubes without modification and thus give any submarine the capability to act as a minelayer. Actuation of the 554 kg charge could be by either magnetic or acoustic means or a combination of both.

Avoiding the fate of many of her sisters, the Doggerbank successfully avoided Allied patrols and arrived safely in Yokohama on 19 August 1942. U-boats were not yet operating in the Far East and the Germans offered to provide 65 of the embarked TMB mines to the Japanese Navy for evaluation. In return the Japanese were asked to provide a similar number of their own mines to the Germans.

The Japanese, by this stage of the war, had virtually no offensive mining capability. They had lost many of their minelaying vessels early in the war and they had no mine suitable for sowing from aircraft. Submarine mining had previously been attempted, but only by the four obsolete boats of the 6th Submarine Squadron. These boats had had their minelaying gear removed in early 1942 after the failure of a mission off northern Australia.

The Japanese were thus very happy to accept the German offer. They had no influence mines of their own and saw the German mines both as an opportunity to acquire technical intelligence and also as a means to regain an offensive mining capability.

Extensive trials on the new weapon were carried out over the next few months and it was found that up to three mines could be carried in each submarine torpedo tube and then launched in sequence. It was now...
By early 1943, the Japanese had lost the battle for Guadalcanal and were fighting a holding campaign in the Solomon Islands and New Guinea. The submarine force was primarily being tasked to supply Japanese troops on islands otherwise cut off by the Allied advance. Offensive missions to stem the flow of Allied troops and materiel into the South Pacific were contemplated, but few submarines were available to carry out missions against supply lines.

In January 1943, only one submarine, the 1-21, could be spared to operate off Australia. However, 1-21 was also one of the most successful of the Japanese submarines and had been in operation since the war began and carried very experienced crews. 1-26 had sunk the first merchant ship of the Pacific war.

1-6 was a somewhat older and slightly smaller submarine. Launched in 1934 and displacing 3,000 tons submerged, she was designed from the outset as a scouting submarine and was one of the earliest to carry her own aircraft. She was armed with a medium calibre gun and was normally capable of carrying up to 17 torpedoes. 1-6 had been in Japan since the end of 1942 and had been trained in mine-laying techniques. Now under the command of Lieutenant Commander Monshiro Izutsu, 1-6 left the home islands on 10 February 1943 for operations in the Southern Theatre. Onboard were nine TMB mines.

In late February, Rear Admiral Mito issued 1st Submarine Squadron Secret Order No 1:

"Submarine 1-26 will advance to the Sydney area, carry out communications destruction warfare on the eastern coastal waters of Australia, and return to Truk by early May.

Submarine 1-6 will advance off-shore from Brisbane, lay magnetic mines, and thereafter carry out communications destruction warfare in that area and will return to Truk in late March."
Map 1
War cruise of I-6, March 1943.

Map 2
I-6 minelay, 13 March 1943.

Map 3
The attack on Convoy BT-44, 17 March 1943.

Map 4
Patrol off Queensland, 11-22 March 1943.
I-6 departed Truk Harbour in the early afternoon of 2 March. Travelling for the most part on the surface, I-6 dived only during daylight hours as she came within range of Allied air patrols operating from the Solomons. (See Map 1).

On leaving the island chain, I-6 remained far out to sea until 10 March when course was at last altered to close the Australian coast. The threat from the air was again increasing and I-6 submerged during daylight for the remainder of the passage. By the early afternoon of the following day, I-6 had reached the coastal shipping routes off Brisbane.

Over the next few days frequent sightings of merchant ships were made, but the targets were all too far away and only one actual attack was attempted. At 1715 on 11 March about 60 nautical miles north-east of Brisbane, a merchant vessel was sighted and classified as being in the 10,000 ton class. The vessel was heading north and it took an hour and a half for I-6 to manoeuvre into a firing position. Finally at 1844 and with daylight gone, two torpedoes were fired. Both weapons missed the vessel. No ship reported being attacked that day and its identity remains unknown.

The next day Izutsu moved his submarine to within 30 miles of Caloundra Head and surveyed the approaches to Brisbane, watching shipping movements and formulating in his mind how best to conduct the minelay.

On the afternoon of 13 March, I-6 approached to within six miles of the coast, operating in what was very shallow water for a submarine of her size. At 1436 the submarine sank to the sea bed and rested, waiting for darkness and listening for passing traffic that might interfere with her mission. (See Map 2).

By 1822 all was in readiness. Izutsu lifted the submarine off the bottom and manoeuvred into position. At 1846 the bow tubes were opened and four minutes later he ordered the first mine launched. Each of the nine mines onboard was sown individually, ejected from the forward tubes by a piston arrangement.

As each mine was launched, a spring-loaded safety bar was released from the top of the mine case, unlocking a hydrostatic clock. At a depth of five metres, water pressure depressed a spindle and started the clock, which was adjusted for a delay setting of up to 80 days. Once the delay was run off, the firing unit would begin the arming cycle.

It is not clear whether the commander of I-6 received specific directions on where to lay the mines or if the final decision had been left to him. But some careful thought was obviously given to the task and the mines were laid directly across the recommended route for shipping. Unfortunately for the Japanese, however, I-6 had obviously not spent enough time observing actual shipping movements, for the recommended route was no longer in normal use.

By 1914, I-6 had completed her task and headed back out to sea. Behind her she had left a line of mines.
THE WAR CUISE OF 16 MARCH 1943

HMAS Gympie

2,000 metres long in water only 30 metres deep. An hour later I-6 surfaced and began to recharge her batteries.

The submarine spent the next few days patrolling the area between Stradbroke and Fraser Islands and several more ships were sighted, but it was not until the afternoon of 17 March that Izutsu again found himself in a position to attempt an attack.

At 1435, I-6 sighted a convoy of two transports in line astern, with a lone naval escort carrying out an anti-submarine sweep a quarter of a mile ahead. Izutsu immediately altered course to close the convoy. The speed of the convoy may have been misjudged for Izutsu seems to have been concerned that he was going to miss the opportunity to attack, by being too far astern. At 1508, he fired two torpedoes from the maximum recommended range of 3,000 metres. (See Map 3).

The target this time was the convoy BT-44 consisting of the American ships SS Charles C Jones and SS Joseph Holt and escorted by the RAN corvette, HMAS Gympie. The two transports had detached from a Brisbane convoy early that morning and were now en route to Townsville. Gympie had been ordered to provide anti-submarine escort up to the Whitsunday Passage.

Four minutes after Izutsu fired, lookouts onboard the trailing vessel, Charles C Jones, saw the two sets of torpedo tracks passing only 20 metres astern of their vessel. The merchant ship immediately broke formation, and altered course towards the direction of the attack in an attempt to offer the smallest target. An emergency signal was hoisted that alerted Joseph Holt and soon both merchant ships had commenced firing in an endeavour to attract Gympie's attention.

At the time, three RAAF Ansons from No. 71 Squadron were on an anti-submarine patrol for the convoy. As I-6 fired, one of the Ansons was overhead and the pilot also sighted the torpedo tracks. The aircraft flew to the position where the wakes began and dropped a sea marker.

Gympie sped towards the indicated position, then both the Anson and corvette commenced an expanding circle search for the attacker. This continued until 1530 with no contacts being gained. At that moment however, the aircraft crew noticed a patch of oil and foam down to the southeast, as though made by a periscope. The Anson shallow-dived on the position and two minutes later dropped a 250 lb anti-submarine bomb. No positive results could be observed.

Lieutenant Commander Patterson, the captain of Gympie, was by this time becoming worried about leaving his convoy without protection and at 1555 the corvette resumed its northerly course and rejoined the merchant ships. The Anson continued searching for the remainder of its endurance, but no further sightings were made.

I-6 meanwhile, had been making ground to the east
aiming to put some distance between herself and the scene of the attack. No damage had been caused by the Anson’s bomb. That evening she broke radio silence for the first time since leaving Truk and sent a comprehensive summary of her activities back to base, describing the exact position of the minefield and reporting the two failed torpedo attacks. The submarine then kept out to sea for three days before assessing that sufficient time had passed and that it was now safe to return to her patrol area. (See Map 4).

**I-6** headed towards Cape Byron and rejoined the coastal shipping routes, but no further sightings of ships were made. Then on the morning of 21 March she received orders to return immediately to Rabaul and prepare for transport operations to Lae. That evening while heading back out to sea, I-6 sent out another operational summary. This time she reported her fuel status and expected time of arrival at Rabaul.

I-6 had an uneventful trip back and reached Rabaul on 27 March. I-26 however, remained on station for a further six weeks eventually returning to Truk on 10 May after sinking two ships off the Australian coast.

### The Australians

Prior intelligence on Japanese submarine operations depended to a large extent on the interception and decryption of Japanese radio traffic. The Japanese had a fondness for administrative detail and as well as general intentions it was sometimes possible to extract precise details of position, time and the intended movement of Japanese units. Decryptions were carried out by the three USN Intelligence Units at Melbourne, Pearl Harbor and Washington and summarised results were sent out to both the USN and RAN.

Also of assistance to Allied intelligence was a network of radio direction finding or D/F stations which could fix a submarine’s position within 20-30 minutes of it making a transmission, though not normally to an accuracy greater than 50 miles.

Though having ready access to intelligence on this occasion, Australia had no prior warning of the sorties of I-26 and I-6. Despite the large amount of signal traffic generated between the submarines and their command before their departure, nothing had been intercepted. The nearest thing to advance warning came on 8 February when a signal decrypted by Melbourne revealed the departure and passage details of I-6 from Japan to Truk. However, I-6 was assessed as just another submarine preparing for transport operations.

Thus, although further offensive submarine sorties against Australia were expected, it was not until I-6 made her attack on **Charles C Jones** that a submarine’s presence was actually confirmed. The Naval Board immediately passed out a general warning that diverted shipping from the area and probably accounts for the lack of traffic sighted by I-6 after her second attack. In an effort to find the submarine, additional aircraft sorties were also ordered and two US Patrol Craft proceeded to the attack position and searched until sunset on 18 March.

More information seems to have been available concerning the return passage of I-6. A D/F fix described as fair was made on the evening of 21 March as I-6 attempted to pass her intended time of arrival back to base. Contact between I-6 and Truk was not established on this occasion and it was not until the following evening that the signal was finally passed. This time the D/F fix was described as very poor with an error of 500 miles on the position.

However, though not good enough for an accurate fix the signal was at least decrypted:

> 2111733 March, 1943
> From Captain of I-6
> 1. Departed DSI (Brisbane area) for RR (Rabaul).  
> 2. Remaining fuel 383 (?) tons.  
> 3. Have not seen enemy since last report. Expended 4 torpedoes”**.

Unfortunately, nothing of great operational value could be obtained from this particular intercept and the daily bulletin of the Commander in Chief Pacific simply stated that a sub was proceeding to Rabaul from Brisbane.

It was also unfortunate that the signal I-6 sent on 17 March detailing the positions of the minefield, was not intercepted. The Australians thus had no knowledge of the primary objective of I-6 during the sortie.

So what had happened to the mines? On Wednesday, 24 March, over a week after they had been laid, the Australian sloop HMAS *Swan* was carrying out high angle full calibre firings against a sleeve target towed by a Hudson aircraft off Caloundra Head.

At 1630, two large explosions resulting in columns of water to an estimated height of 400 ft were observed in a position six miles from Caloundra Head. As noted by the Captain of *Swan*, the explosions:

> “occurred shortly after the order ‘cease firing’ had been given . . . and were noteworthy for their size, the base of the column of water appearing to be 150 ft. My first reaction was that patterns of bombs had been dropped but as this had to be discounted, I assumed the columns of water were caused by mines. The impression was that at least two mines had caused each explosion”**
Subsequent investigation showed that some of the shells fired during Swann’s practice would have fallen in the vicinity of the explosions and it seemed that a resultant actuation of acoustic mines was the most likely explanation. The incident was reported to the Naval Officer in Charge Brisbane, who that evening alerted all shipping to the occurrence. Plans were made to conduct an exploratory minesweep with HMAS Gympie, but without further information it was not considered necessary to close the port of Brisbane.

Gympie had just left a convoy off Dent Island and was on return passage to Brisbane when she was ordered by the Naval Operations staff to carry out an acoustic sweep of a rectangular area centred eight miles off Caloundra. The mine sweep commenced in the early morning of 1 April. Ian Marshall who was a Sub-Lieutenant onboard the corvette recently recalled the search:

“Gympie was the first Australian vessel to be fitted with an inboard acoustic mine sweeping device. The device emitted intensely loud variable sound waves beneath the water which, one hoped, would explode the mine at a safe distance from the sweeper.

Many boring and ear-numbing hours later we were shocked by a soft lingering explosion and a towering eruption of water on our port side. That probably was the first and possibly the only acoustic mine swept in Australian waters during World War Two”.

The mine had exploded in mid-afternoon after almost 11 hours of searching. A buoy was laid to mark the position and the search for more mines continued for the remainder of the day and well into the next. However, Gympie failed to find any further evidence of mines and eventually returned to Brisbane.

With confirmation that acoustic mines had been laid in the area, inshore shipping was diverted from the vicinity of Caloundra and a more extensive series of acoustic sweeps was conducted by US Navy minesweepers. These sweeps covered all channels into Brisbane and were conducted throughout April into June. Results were all negative but to ensure that any possible arming delay was covered, a searching sweep was repeated in September. There does not appear to have been any attempt to conduct magnetic sweeps.

Conclusions

So what then did all this activity surrounding I-6 achieve? In the final analysis the answer is not much. No ships were sunk or lives lost by either side as a result of her mission. There are also no records of later submarine minelaying so that it would seem that the operations of I-6 failed to convince the Japanese of the value of an offensive mining campaign. However, despite this, the Japanese did subsequently go on to manufacture almost exact copies of the German TMB mine, though in what quantities is unclear.

The whole episode can be seen as simply another example of the Japanese tendency to half-heartedly attempt minor tactical operations with no real strategic commitment to back them up. The nine mines sown by I-6 across a single channel could realistically not hope to achieve more than nuisance value. Several fields would have been needed to completely close off Brisbane. In contrast Germany, Britain and the United States also made use of submarine mines, but were much more serious in their use. The Germans, for example, would lay a field of up to 300 mines to achieve results if necessary.

The operation of I-6 can stand as an example of the entire Japanese submarine campaign off Australia, and in fact the war. The submarines were technically advanced and the crews well trained, but operations were attempted piecemeal and never given the resources and priority they needed to achieve significant results.

Had the Japanese attempted a serious submarine campaign using either mines or torpedoes, Australia would have been put in a very difficult position. Even against the limited threat that did exist, patrol aircraft, escorts and minesweepers were fully employed. Shipping, then as now, carries by far the largest proportion of interstate and overseas trade and was already in short supply. Road and rail transport could not have made up the difference, had losses been greater.

For the Australians the episode also demonstrates that despite an extremely effective intelligence organisation, the outcome in war will often still come down to luck. Without Swann’s extreme good fortune in accidentally detonating a mine, she or some other warship using the same firing area could easily have been sunk.

As for the individual mines that I-6 laid off Brisbane, if it is assumed Swann exploded four and Gympie one, then there are at least another four still sitting on the bottom. Acoustic mines of that era lost sensitivity fairly rapidly and by now time should also have destroyed the firing mechanisms, but the 554 kg of explosive in each is there to this day and still remains a hazard.

The author wishes to gratefully acknowledge the assistance of Ms Kuniko Matsumura in translating the War Diary of I-6.
NOTES

1. The Doggerbank had started the war as the British Speybank, but in January 1941 had been captured southwest of India by the raider Atlantis and taken back to France.

2. Information on the TMB mine was provided by the Explosive Ordnance Disposal Section, RAN Diving School, HMAS Penguin.

3. Japanese Monograph No. 163, Submarine Operations in Operations Phase III (March to November 1943), Naval Historical Center, Washington DC.

4. Record Group 457 Entry 9014 SRN. No. 005849, National Archives, Washington DC.


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Australian Station — Daily Narrative, Naval Historical Section, Russell Offices, Canberra.

Lieutenant Commander David Stevens is a Principal Welfare Officer with 19 years experience in the RAN. This has included time as the anti-submarine officer onboard HMA Ships Yarra and Hobart and on exchange on HMAS Melbourne. His recent postings have included six months on the Staff of the Commander of the RAN Task Group during the 1990-91 Gulf War. In 1992 he graduated from the ANU with a Masters Degree in Strategic Studies. He is currently posted to HQADF Development Division.

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UNIVERSITY OF SOUTHERN QUEENSLAND
The Australian Services Cricket Association

By Corporal Grant C. Pinder, RAAF.

The Australian Services Cricket Association (ASCA) was created from one man's desire to see Servicemen able to represent the Defence Force at a national level. He soon discovered that there was a mechanism in place to achieve this. He wrote the constitution, appointed himself President, had these approved and in 1986 the ASCA was in existence.

This Association has the responsibility for conducting inter Service cricket at national level; hosting tours by other nations' Forces and coordinating tours to other nations. The tour by the New Zealand Defence Force in 1987 was the first activity in which the young association was involved. The administration of this tour was carried out single-handedly; however, it had an important by-product — the annual national Inter-Service competition.

Obviously it is from this competition that the Australian Combined Services team is selected.

The UK Defence Force toured Australia privately in 1989 and requested two matches against the Australian Services. The first, in Melbourne, was abandoned through wet weather whilst the second in Sydney was drawn.

New Zealand invited Australia to tour in 1990. The ASCA was now more than a one man band as it now had a committee to administer it and enthusiasm amongst its members. The New Zealand tour was successful, but dogged by rain. During one washed out day, the discussion turned to "what next?" "Why not England?" was enough of a challenge to get people into action.

Research into Wisden and other authoritative documents revealed that the ASCA, touring as the Australian Combined Services team, had its origins in 1918. The AIF team of 1918-19 was followed by Lindsay Hassett's team at the end of World War II. The ASCA planning committee is well placed to conduct a tour to the UK in 1993.

Annually, the Australian Combined Services team competes in Canberra as the Defence Minister's XI and in four matches based in Sydney. The future of the Association is in the hands of its members. By the end of August 1993 one man's dream will have been fulfilled.

A Message from Sir Donald Bradman

"I am advised that a cricket team from the Australian Services proposes to undertake a tour of the UK in the English summer of 1993.

This is a laudable undertaking and merits support.

Few Australians living today are old enough to remember the mighty feats of the AIF side which was formed after World War I and which contributed so handsomely to Australia’s cricketing strength in the early 1920s. But I have treasured memories of those legendary figures, men like Herbie Collins (later to be Australia’s captain), Jack Gregory, Bertie Oldfield, and others.

Jack Gregory was one of the greatest all-rounders the world has ever seen and sadly his last Test in 1928 was my first.

I rubbed shoulders with and played with or against many of these men and they were a big influence on my career.

After World War II, the formation of the Australian Services side repeated the example of the AIF side and produced another Australian captain in the person of Lindsay Hassett, plus that magnificent all-rounder Keith Miller. And once more the influence of these returned men on both English and Australian cricket was very marked.

My own period of service in the Forces was regrettably very brief and my cricket confined to a few "in house" contests where I was conspicuous by being a rank failure, a harbinger of the health problems which ultimately terminated my Army career.

Though never able to recapture my form or fitness of the 1930s, I did subsequently have the honour and privilege of taking the Australian team to England in 1948 when the ex-Service players played such a prominent role in Australia’s success and I am proud to think we played a notable part in helping restore cricket in war-ravaged England.

The skills have faded, but the memories remain. I’m sure the 1993 tourists will revive traditional ties with the UK and keep alive the kinship we have all shared in peace and in war.

Teams have recorded competition in England, South Africa, India, New Zealand and Scotland as well as
hosting visiting Services teams in Australia. From its ranks, the Services have had a number of international class players represent it including:

Herbie Collins, Bill (Bert) Oldfield, John Taylor, Charles Kelleway, Hampden Love, Clarence “Nip” Pellew, Lindsay Hassett and Keith Miller.

Test players who have also served within the Forces, but unfortunately did not get the opportunity to play for the Australian Services teams include:

Arthur Morris, Ray Lindwall, Colin McCool, Don Bradman, Ian Johnson, and more recently, Doug Walters.

With such a credible past, today’s Services cricketers have much to live up to and are entrusted with continuing to develop such fine traditions. Unlike their forefathers, we pray that the Australian Services Cricket team will never again be raised under the circumstances of the 1918, 1919, and 1945 teams.”

Lest We Forget.

Physical fitness is an essential element of the operational efficiency of the Australian Defence Force (ADF). Properly planned and executed, it is a necessary factor in maintaining the physical and mental well-being of each Service member. Sport encompasses physical activities and is therefore an integral part of Service training.

For these reasons, the ADF actively supports the conduct of sport at the Unit level right through to the international level. Prime responsibility for the encouragement and promotion of sport in the ADF is vested in the Australian Defence Force Sports Council (ADFSC).

One of the oldest and most popular Services sports is cricket. Whether it be played out the back of the Section during lunchtime, or at Combined Service level, it attracts keen interest and the Australian spirit of “getting out there and having a go”. Even the occasional cricket supporter will stand-up and “be counted” when Australia is playing England in a Test series for that icon, “the Ashes”.

Whilst at the Inter Service level “the Ashes” are not up for contention, competition is just as keen. For many years the organisation of tri-Service cricket was very disjointed. In 1986, the Australian Services Cricket Association (ASCA) was formed from one man’s desire to see Servicemen be able to represent the Defence Force at a national level. He had discovered that there was a mechanism in place to achieve the formation of such an association. He wrote the constitution, appointed himself President, had these approved by the ADFSC thereby bringing about the ASCA. This person was Lieutenant Colonel (now Colonel) Denis Byrne.

This Association has the responsibility for conducting Inter-Service cricket at a national level, hosting tours by other nations’ Defence Force Combined Service cricket teams and coordinating such tours to other countries. One such tour was that to England in July and August 1993.

Annually, the Australian Combined Services team competes in Canberra as the Defence Minister’s XI and in several matches in Sydney against Invitation XIs.

Under the Presidency of Colonel Byrne, a devout cricket lover and First Grade cricket umpire in Melbourne, the ASCA aims to both increase the standard of Inter-Service cricket and awareness of the proud history of Australian Services Cricket. 1993 will see the recognition of 75 years of Australia/England Services cricket competition. To commemorate this event, an ADF Combined Service team was formed to undertake a five week tour of Singapore and England which began on 8 July. Whilst “the Ashes” will not be at stake, the pride of the ADF will be, and the 16 players and four officials, led by Colonel Byrne, aim to do their very best.

In preparation for this event, extensive research was conducted to establish the history of the Australian Services Cricket. “Wisden Cricketers’ Almanac”, and other authoritative documents reveal that the Combined Services, touring as either the Dominions XI, Australian Imperial Forces XI, or the Australian Services XI, had its origins in 1918.

The World War I Teams

The first match was played at Lord’s as a one day fixture on Saturday, 29 June 1918. The Dominions XI included Test and First Class players such as Lieutenant Charles Kelleway (NSW), Warrant Officer Charles McCartney (NSW) and Gunner Johnnie Taylor (NSW). The England XI included such notables as Major, the Honourable L.H. Tennyson and Captain Pelham (“Plum”) Warner. Of the three matches played, history records that Australia scored a 1-0 victory over England.

Reality honours these soldiers for the major part they played in ushering English citizens back from the rigours of a World War to the peace-time pleasures of sport.

The Dominions XI showed the public something of what they were to view on the Australian Imperial

To most people, the AIF cricket team seemed to spring into existence from literally nowhere. The team was drawn from 100,000 battle weary soldiers who had fought in France, the Middle East and Belgium. Only the captain, Lance Corporal Herbert Collins (NSW), had played First Class Cricket before enlisting for service in World War I. Each man’s rank was deleted so that a Lance Corporal on 7 shillings and 6 pence per day could lead a side containing seven commissioned officers without any question of his right to authority. Names mostly unknown beyond school teams and Club XIs leapt into the headlines. One player, Gunner Johnnie Taylor, undertook his schooling at Newington College, Sydney, where he became the NSW Schoolboy Champion in all sports in his age group, a record that stands to this day. Another, Corporal William “Bert” Oldfield, went from being a 3rd Grade wicket-keeper for Glebe in the NSW Cricket Association competition to keeping for the AIF XI and subsequently for Australia at Test level. History records that through his participation in the AIF XI, he became one of the greatest Test wicket-keepers playing 54 Tests and effecting 130 dismissals. Six players from that team went on to play Test cricket for Australia.

The AIF team of 15, commenced its tour on 14 May 1919. During its United Kingdom tour, it played 34 games, of which 28 were designated as First Class fixtures. The results of the games were — won 15, drew 15, lost 4.

It is not proposed to detail each of the matches played by the AIF XI, except to say that they travelled the length and breadth of England and Scotland, playing against strong teams provided by either Counties or selected XIs being representative of different areas. During this part of the tour, 27 centuries were scored by the AIF players.

Towards the close of the season in England, the ADF Sports Control Board, under the Presidency of Brigadier-General T. Griffith, CMG, CBE, DSO, received a cablegram from the South African Government asking if arrangements could be made for a six week tour of South Africa. The Minister for Defence, Senator Pearce, who was then in England, provided the necessary permission for the tour to proceed. The team sailed on the SS Ascansus at the end of September 1919.

During their time in South Africa, eight matches
The Second (unofficial) Australian Cricket Team to visit India, 1945-46.

were played, of which six were won and two drawn. Six matches were granted First Class status. Departing Cape Town in mid December 1919, the AIF Team was finally on its way home to its families. Whilst the Australians were travelling, arrangements were being made for them to play some of the Australian State sides. When the ship arrived in Adelaide on 2 January 1920, they were informed that matches had been arranged against Victoria, Queensland and New South Wales.

Whilst the team was playing in Australia, the players received 50 per cent of the takings and an allowance of one pound a day per man from the State Association hosting the fixture in addition to hotel accommodation. The AIF XI accounted for both the Victorian and New South Wales sides, and only poor weather robbed them of a certain victory against Queensland.

The foresight of those in control of the sport in the United Kingdom, following the cessation of hostilities, was a major reason why sporting life was able to return quickly following the First World War. With Australia and South Africa being somewhat detached as far as hostilities were concerned, their recovery was probably a little easier. However, the English experience had been a difficult one for the people of the United Kingdom in adjusting and the outstanding cricket, qualities and enthusiasm displayed by both the AIF team and their opponents ensured that a solid footing was established for the future.

The World War II Team

The Australian Services side of 1945 was raised under similar circumstances to those of the 1919 AIF side. Australian Servicemen were again to make a valuable contribution towards the recovery of cricket in all parts of England, embarking on a program which eventually involved them in 54 matches in three countries including five “Victory” Test matches against an England XI comprising the likes of Walter Hammond, Leonard Hutton, John Edrich and Cyril Washbrook. All became legendary Test players.

Honours in this 1945 Series, affectionately known as the “Happy Series”, were divided with each side winning two Tests and one drawn. At the time of forming the 21 man team, only one player had played Test cricket — its captain, Warrant Officer Class II Lindsay.
Lindsay Hassett. The others had played Sheffield Shield Cricket; however, it was in this series that we first saw Flying Officer Keith Miller in action. Records show that it was through this Services side that Keith Miller’s Test cricket career was born. History now shows that he went on to become one of the greatest all-round players in international cricket.

Lindsay Hassett, in a recent interview, remarked that:

“All in all, I would say it (1945 Services tour) was the most enjoyable cricket that I have ever played. Every one got on well together and there really was a good spirit about the whole set-up. The team as a whole performed very well.”

The success of this tour was evident by the crowds that attended. For the five “Victory” Tests, a total of 370,000 attended over 15 days of cricket, each Test being of three days duration. The Fourth Test at Lord’s created a record crowd of 93,000 that stood for a very long time. Both the British Red Cross and Australian Charities benefited from all the games played in the United Kingdom.

We should go back and recall the establishment of this 1945 Services side. In May 1945, in London, a team of Australian Servicemen comprising 17 players and four officials (only 15 players and four officials toured India and Ceylon [now Sri Lanka]) formed a cricket team. The team was entirely a Services team in the truest sense. It travelled and played as a Service Unit with its own Commanding Officer, and its members received only their normal Service pay — never any special or cricket allowance.

The men that made up this team had enlisted into the Armed Forces to serve in World War II, just like thousands of other Australians had done. All personal cricket aspirations were put aside as the world holocaust raged for six years.

In the early days of World War II, when cricket was almost a forgotten activity, many Australian sportsmen joined the Armed Forces to serve wherever they were needed or sent. Amongst those that survived those dreadful and fearful war years, were the cricketers who ultimately made up the team.

During the war years, and leading up to the formation of the team, casualties were not uncommon amongst the cricket personalities in the Royal Australian Air Force stationed in the United Kingdom for instance. Men such as Ross Gregory (Victorian and
Australian representative) and Charlie Walker (South Australian and Australia) were both killed in action before the first representative RAAF team was formed in 1943. The RAAF team formed the nucleus of, and was the fore-runner to, the Australian Services side. A number of other First Class players also paid the supreme sacrifice.

Several players that did play in the Combined side deserve particular mention due to their fortune during the War. Squadron Leader Stan Sismey (NSW) had a remarkable escape when he was shot down over the Mediterranean Sea off the North African coast in 1942 whilst flying a Catalina Flying Boat. Critically wounded, he was hospitalised and taken off flying duties for five months. Keith Carmody (NSW and later WA), who went on to invent the famous fielding set-up, still in use, known as the “Umbrella” or “Carmody” Field, was shot down off the coast of Holland in 1944 and became a Prisoner-of-War (POW) in Germany for 12 months. Graham Williams (SA) was a POW in Germany for almost four years. Another, Ross Stanford (SA) was awarded the Distinguished Flying Cross (DFC) for service with the RAF Bomber Command 617 “Dambuster” Squadron.

With regard to the formation of the Services side in 1945, it is in fact necessary to go back further to 1941. At this time a group of airmen at the RAAF Administrative Headquarters, situated in Kodak House Kingsway, London, formed a cricket team. The team engaged in several social and club matches in the London area. At the beginning of the English summer of 1943, Sir Pelham (“Plum”) Warner, Secretary of the Marylebone Cricket Club (MCC) with its Headquarters at Lord’s Cricket Ground, and Flight Lieutenant Perce Cochrane, RAAF Welfare Officer stationed at Kodak House, discussed and arranged two cricket matches at Lord’s involving a RAAF team. The final outcome was that on 5 June 1943, a match styled as the RAAF versus Sir Pelham Warner’s XI was played at Lord’s. The team for this match was:

**RAAF XI**
- Pilot Officer K.K. Carmody (Captain, NSW)
- Sergeant J.H. Jeffreys (WA)
- Sergeant K.R. Miller (VIC)
- Flying Officer E.G. Broad (QLD)
- Flying Officer A. Barras (WA)
- Sergeant B.C. Sheidow (NSW)
- Squadron Leader B.R. O’Connor (QLD)
- Flying Officer S.G. Sismey (NSW)
- Flying Officer K.P. Alcorn (SA)
- Pilot Officer A.D. McDonald (VIC)
- Pilot Officer A.W. Roper (NSW)
- Sergeant R. Ewington (NSW — 12th Man)

**Sir Pelham Warner’s XI**
- Flying Officer R.E.S. Wyatt (Captain, Warwickshire)
- Lance Corporal H. Halliday (Yorkshire)
- Flight Sergeant E.A. Bedser (Surrey)
- Squadron Leader P.A. Mackenzie (Hampshire)
- Private L. Compton (Middlesex)
- Major E.R.J. Holmes (Surrey)
- Cadet Officer T.E. Bailey (Essex)
- Major G.O. Allen (Middlesex)
- Sergeant A.V. Bedser (Surrey)
- C.B. Clarke (West Indies)
- B.O. Wildbore (Surrey Colts)

This game, which was won by Warner’s XI, attracted about 10,000 spectators and raised £127-10-9 pounds (A$320.00) for the Red Cross. The second match saw a win to the Australians. This occasion was the first appearance at Lord’s of that future dynamic cricketer, Keith Miller. At this stage, Miller was not a bowler; however, he followed up in the second game with 91 runs and 3 wickets for 23 runs off 6 overs to add to his 45 and 21 runs respectively in the first game.

During the 1944 season, the RAAF participated in several one-day fixtures at Lord’s. These matches were once again organised by the cooperative efforts of Sir Pelham and FLTLT Cochrane.

Although the RAAF cricketers were stationed at various RAF Stations throughout England, Scotland and Northern Ireland, some weekend leave was usually obtained to enable the players to meet in London for these occasional one-day fixtures. Any travel arrangements to and from London, and accommodation whilst there, were left to the individuals concerned and they met all costs incurred.

Early in 1945, the War in Europe was heading towards a conclusion. In Australia about that time, the Australian Command and Sir Thomas Blamey resolved that a POW Reception Group be sent to England to establish a reception centre at Eastbourne to prepare for the repatriation of approximately 60,000 Australian Army POWs from Europe. Major W.A. (Bert) Oldfield (former Australian Test player) was instructed to seek out some top line cricketers to be part of that Reception Unit for England, but with the proviso that only those who had previously served in the Middle East and New Guinea were to be considered.

Amongst the Australian Army personnel who were ultimately transferred to the Eastbourne Reception Unit were LT A.G. (Bert) Cheetham, CAPT R.S. (Dick) Whittington, WO2 A.L. (Lindsay) Hassett, SGT C.F.T. (Charles) Price and SGT C.G. (Cec) Pepper.

Early in 1945, both the Army and RAAF had the nucleus of reasonable cricket teams and with the
English cricket season about to commence, an Army team was formed. With able organisation by Captain John Mallyon, a brief program of one-day fixtures was arranged.

At the same time, with the cessation of hostilities, the RAAF arranged a similar cricket program. In the back of everyone's mind was the desire of returning home after having been away for anything up to six years. The non-availability of ships to Australia to transport many repatriated Servicemen became a major problem and this meant long waiting periods in the United Kingdom.

When Victory Europe (VE) Day had arrived on 8 May 1945, and the shipping problem was still extreme, it was decided to review the RAAF cricket program.

Sir Pelham Warner suggested to FLTTLT Perce Cochrane and SQNLDR Stan Sismey, who had recently been transferred off flying duties and posted to RAAF Headquarters London, that perhaps the RAAF team and the Australian Army might combine to play a fully representative England side in three matches at Lord's to be known as the "Victory" Tests.

This was agreeably arranged but was subsequently extended to five "Victory" Tests, with the additional ones to be played at Bramall Lane, Sheffield and at Old Trafford, Manchester. Requests for other matches by the combined Australians began to grow like a "snow-ball". A committee comprising Sir Pelham Warner, SQNLDR Stan Sismey and FLTTLT Perce Cochrane set about viewing the requests and drawing up a program of matches.

From this combination of the RAAF and Army teams, the Australian Services Cricket Team was formed by the Service personnel themselves. The only reason provided for no Navy representation, was that none were available in the United Kingdom at the time of the formation of the squad. The badge subsequently chosen by the team did, however, reflect the Royal Australian Navy.

No Australian cricket authority was involved at any time, nor did any Australian cricket body have any say in the programming of the team's activities. In addition to the Australian Services team playing arranged matches in the United Kingdom, the Army and RAAF teams, as separate entities, had numerous fixtures of their own to meet.

Early in June 1945, FLTTLT Keith Johnson (a member of the then Australian Board of Control for International Cricket, now the Australian Cricket Board) arrived in London in his capacity as a RAAF Welfare...
Officer. FLTLT Cochrane subsequently withdrew his services to concentrate on other sports and FLTLT Johnson assumed responsibility for cricket activities, as well as ultimately becoming manager of the Australian Services Cricket Team. FLTLT Johnson was later honoured with managing the famous Australian Test team, which included Don Bradman as captain, Lindsay Hassett as vice captain and Keith Miller.

The 1945 Australian Services team comprised:
- Warrant Officer Class Two A.L. Hassett (Captain)
- Flying Officer K.R. Miller (Vice Captain)
- Squadron Leader S.G. Sismey (Wicket-keeper, CO)
- Flight Sergeant J.A. Workman
- Captain R.S. Whitington
- Flying Officer R.M. Stanford, DFC
- Sergeant C.G. Pepper
- Captain A.G. Cheetham
- Flying Officer R.S. Ellis
- Warrant Officer R.G. Williams
- Sergeant C.F.T. Price
- Flying Officer E.A. Williams
- Flying Officer D.R. Cristofani
- Flight Lieutenant J. Pettiford
- Flying Officer A.W. Roper
- Flight Lieutenant C.D. Bremner
- Flying Officer A.W. Roper
- Flight Lieutenant D.K. Carmody
- Flight Lieutenant K.O.E. Johnson (Manager)
- Flying Officer F.B. Moran (Scorer)
- Staff Sergeant L.W. Maddison (Masseur)
- Captain J. Mallyon (Treasurer)

At the completion of their United Kingdom tour they had played 16 matches (won 5, lost 5, drew 6).

The Australian Services tour was far from over. On 3 October 1945, the side sailed from Liverpool on the troopship RMS Samaria. On arrival in Bombay on 22 October, they were greeted by Australia’s High Commissioner, General Sir Ivan Mackay and various Indian cricket officials. The team now comprised 15 cricketers and four officials, having lost two (A.G. Cheetham and R.G. Williams), who returned to Australia.

The Australians discovered to their dismay that the Indian program included tremendous distances of train travel. The first such train trip involved travelling on the notorious “Frontier Mail”, Bombay to Lahore, which occupied 42½ hours! The team was well received throughout India and in fact created hysteria from the fanatical cricket public.
The first representative match against India was played at Brabourne Stadium, Bombay, between 10 and 13 November 1945. The result was a draw. A crowd estimated in excess of 120,000 saw this match.

Adulation was not experienced everywhere that they played. Whilst the tourists were engaged in a match in Calcutta, away in New Delhi war trials had commenced involving those persons who had collaborated with the Japanese during the War. These trials evoked a profusion of unrest and bitterness throughout India, and a lot of violence erupted. The violence and unrest were experienced by the Australians twice in Calcutta when the match against the East Zone was interrupted and stopped by thousands of students who invaded the field of play and, waving banners, ordered all players off the ground. The demonstrators stated in no uncertain terms that "no more cricket would be permitted" and any attempt to resume playing would result in the ground being dug up and grandstands set on fire. The Australians were very frightened and alarmed by what they saw.

They were informed by the cricket and civil authorities to remain in their hotel and not to venture on to the streets. Sqnldr Sismey (CO) and Flt Lt Johnson (Manager) requested an interview with the Governor of Bengal, His Excellency, the Right Honourable R.G. Casey, CH, DSO (later Lord Casey — Governor-General of Australia) expressing their concern about the violence and requesting a curtailment of the Calcutta program. Mr Casey was anxious for the Australians to fulfil their cricket commitments and so ordered the Army to assist in restoring order and ensuring the safety of the cricketers.

Of the representative matches played against India, two were drawn and one lost. After leaving Madras for Australia, via Ceylon and the Cocos Islands, the Australians stopped over in Colombo to play against an All Ceylon team between 14 and 16 December 1945. This match was won by Australia by an innings and 44 runs.

The Australian Services team finally arrived back in Perth on 19 December 1945. For some members, this was their first glimpse of Australia in almost five years. They were met by representatives from both the Australian Board of Control for International Cricket and the Western Australian Cricket Association, and Major W.A. (Bert) Oldfield (member of the 1919 AIF side).

To the consternation of the side, they were presented with a program of six three-day matches against each State side. This meant 18 playing days within the first 40 that they were back home. The team, however, proceeded to show the Australian public how good they were by drawing four matches and losing only two. Not a bad effort for a side that had been playing cricket for the previous nine months under extremely varying conditions against some first class opposition.
The tour finally ended on 28 January 1946 in Tasmania where the opposition’s batsmen hung on to record an exciting draw.

Overall, the team played 64 games (won 26, lost 13, drew 25). SQNLDR Stan Sismey in his personal memoirs of the tour wrote:

"I think it significant that on VE Day and VJ Day we were playing cricket at Lord's and Blackpool; playing on the grounds our countries had given so much to protect. I remember the bomb-holes on Old Trafford Oval, Lord's, Bramall Lane (Sheffield), and the groundsmen proudly pointing to how the turf had once more grown nicely over it. I remember a ground in Darwin, in northern Australia, scarred in the same way by another foe, and I remember with thankfulness the grand men of our Empire who made our Great Victory possible. I remember with respect and admiration the boys of the Battle of Britain, Dunkirk and other dark days — Ken Farnes, Charlie Walker, Ross Gregory and thousands of the cream of our youth who paid the supreme sacrifice. I hope we prove worthy, in the years ahead, of these grand young men who adorned our cricket fields and fell on the field of battle."

These thoughts certainly show the feeling held by those players of the 1945 Australian Services side, and I am sure that similar beliefs would have been held by the 1919 First AIF side. In spite of the trauma of war, these men set about representing their country, and revitalising the spirits of war-ravaged populations prior to themselves coming home to re-settle into a normal lifestyle. Numerous players in the 1918, 1919/20 and 1945/46 sides went on to play First Class, and in some cases, Test Cricket. One player from the 1945 Services side, SGT Cec Pepper, returned to England and played County Cricket and then went on to umpire at Test level.

**Australian Services Cricket Since 1980**

A break of 35 years ensued before the next Australian Services side ventured overseas. In this case it was to New Zealand. This was a successful tour with only one match lost, that to the NZ Police.

In 1987, a NZ Combined Services side ventured to Australia and was the first activity in which the ASCA was involved. The administration of this tour was single-handedly carried out by LTCOL Denis Byrne; however, it had an important by-product — the national Inter-Service competition. From this competition the Australian Combined Services team is selected.

The highlight of the NZCS tour was the match against the Australian CS at the Junction Oval, Melbourne. The two-day match came down to the last ball when LT (now LCDR) Mark Harling, RAN, hit a four to win the match and secure the Byrne/Sears Trophy, which was struck for competition between these two Combined Services sides.

The UK Defence Force toured Australia privately in 1989 and requested two matches against the Australian Services. The first, in Melbourne, was abandoned through wet weather whilst the second in Sydney was drawn.

New Zealand invited Australia to tour in 1990. The ASCA was now more than a one man band as it now had a committee to administer it, and enthusiasm amongst its members. That three week tour of NZ involved matches against the three Services, NZ Police and the Combined Services side. Captained by CAPT (now MAJ) Lew Coyle, the 16 man squad played six matches; however, several were affected by rain (3 won, 2 lost, 1 drawn). The highlights of that tour were the match against the NZCS at Lancaster Park, Christchurch, when Australia won in the last over, and the other was against the Police in Wellington when for the first time in 12 years they were defeated in Services cricket.

At the end of that tour, discussion turned to “what’s next?” "Why not England?” was enough of a challenge to get a group of people into action. Since March 1990, a tremendous amount of effort has been invested into bringing about a successful tour to the United Kingdom.

A total of 18 matches have been arranged against the UK Services and Combined Services, First Class County Second XI teams (including Surrey, Essex, Hampshire and Sussex), and the Duchess of Norfolk XI at Arundel Castle. This last match is the traditional opening fixture for the Australian Test team. Several highlights of this forthcoming tour include the match against Surrey at the Foster's Oval, Kennington, and a match on the Flight Deck of HMS Ark Royal. Whilst this five week tour is not nearly as long as its predecessors, the amount of cricket in such a short period will certainly account for any perceived shortfall.

With such a credible past, today’s Services cricketers have much to live up to and are entrusted with continuing to develop the fine traditions established by their Services’ forefathers.

Sir Donald Bradman, AC, wrote in his letter of support for the tour that:

"I’m sure the 1993 tourists will revive traditional ties with the UK and keep alive the kinship we have all shared in peace and in war."

He also stated:

"Though never able to recapture my form or fitness of the 1930s, I did subsequently have the honour..."
and privilege of taking the Australian team to England in 1948 when the ex-Service players played such a prominent role in Australia’s success and I am proud to think we played a notable part in helping restore cricket in war-ravaged England.”

The future of the Australian Services Cricket Association is in the hands of its members. Unlike their forefathers, we pray that the Australian Services Cricket team will never be raised under the circumstances of the 1918, 1919/20 and 1945/46 sides.

With the support of Lindsay Hassett, MBE, as “12th Man — In Perpetuity”, in addition to the support of the Chief of the Defence Force and the three Service Chiefs, the 20 man team that travels to England on 8 July 1993 will be well aware that to follow in the footsteps of those who represented the Australian Armed Forces in the five previous Services sides will indeed be a great honour. Under the guidance of Colonel Denis Byrne, they will play to their best ability, but most of all, they will be ambassadors for the Australian Defence Force, and for Cricket. By the end of August 1993, one man’s dream will have been fulfilled.

REFERENCES

The author acknowledges the assistance of the following:

Colonel D.L. Byrne, President of the Australian Services Cricket Association.
Squadron Leader S.G. Sismey, OAM (Retd.).
Captain A.L. Jones, RACT.

Corporal Grant C. Pinder enlisted in the RAAF on 1 May 1984 as a Clerk Supply, and will be promoted in July 1993. Postings, after initial training, have included BSEDN, MCOADL, 492SQN, ISD and HQLC. Corporal Pinder commenced cricket umpiring in 1981/82 after a limited playing career at school. To date, he has umpired “A” Grade District Cricket in Adelaide and is currently umpiring First Grade District Cricket in Melbourne with the Victorian Cricket Association. In March 1990, he accompanied the Combined Service side to NZ and will be one of the two umpires selected to accompany the Services side to Singapore and England in July 1993. Aside from cricket umpiring, he enjoys collecting cricket memorabilia and running in the occasional marathon.

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Reviewed by John Buckley.

Having reviewed nearly 300 books over the past ten years, this is the first one I have read from the Australian Government Publishing Service; I hope it will not be the last.

The author, Bleakley, volunteered for the select group of wireless interpreters at the beginning of the war in the Pacific. He served with the RAAF Wireless Units whose outstanding performance has been kept a secret until the last few years. They certainly made a vital contribution to the Allied victory.

Bleakley traces the development and war experiences of his Unit with brilliant method and clarity. It is expertly supplemented with excellent maps and photographs. Its narrative is simple, direct and entirely interesting.

The author has had permission to use some top secret documents which readers will find most interesting and surprising.

As a war historian and book reviewer, I found much new information about the vital importance of "the Eavesdroppers" work in a general war situation. This book tells of the value of the Australian contribution to the US Signal Intelligence Organisation until the end of the war. General Akin, the Chief Signals Officer on General MacArthur's staff asked that the RAAF Signal Units be made available for the final Campaigns. He got them!

In the past few years much has been written about the brilliant work of the code crackers, but I think this book is second to none. It keeps to the central point of the story throughout and is not diminished by red herrings or political issues.

Bleakley is a gifted historian and, from his own experience and excellent research, he tells his story with accuracy, truth and integrity — and what a story!

The Australian Government Publishing Service has produced a first class publication at minimal cost. At $12.95 the book must be the bargain of the year.

If I can mention one criticism, I consider this book should have been produced with a hard cover even though it would have been more expensive. The quality of the narrative and its outstanding contents deserve a better cover and I strongly recommend The Eavesdroppers to all readers. It shows that a good publisher and a good author can combine to produce a book which will appeal to all readers interested in the Australian war effort in breaking enemy codes.

I hope Jack Bleakley continues to write and that the Australian Government Publishing Service continues to expand its coverage of Australian war history. The 50th Anniversary of so many of the important land, sea and air battles in 1942, hopefully, will bring forth many books similar to The Eavesdroppers. It would be appropriate for the Government Publishing Service to encourage and foster such important historical books.


Reviewed by Lex McAulay.

This is another first class book from Laddie Lucas, this time in partnership with Johnnie Johnson, the leading Allied ace in Europe 1939-45. The reader is guided on an easy-to-read tour of air war from the earliest days of fighting in 1914 through to "Desert Storm". The 208-page book is well illustrated with photos of the men and aircraft, and with simple but informative maps of the operational areas and operations themselves.

The reader is taken on a tour which includes the first calculated use of the aircraft as a fighting and bombing machine, the first development of tactics by Boelcke, the career of Richthofen and other WWI aces, the air war in Spain 1936-39, Fighter Command in 1939, the Battle of Britain, the Desert Campaigns in North Africa, the Bomber Offensive, the anti-submarine campaign in the Atlantic, the Normandy operations in 1944, air war in Russia, in the Pacific, in Korea, Vietnam, the Falklands and in the Gulf in 1991. There are a few very minor errors in the photographs, but this seems unavoidable in publishing books of this nature.

There is only one chapter in the book with which this reviewer disagrees strongly: the crediting to the Canadian pilot Roy Brown of the victory over Baron von Richthofen, despite much available eyewitness and post-mortem examination evidence that the Baron was killed by ground fire from Australian troops while flying at very low level over their positions. If we did not persist in beating the Poms at cricket and footy, they might admit we got the Red Baron!
While perhaps of less value to the well-read student of military aviation, this volume is certainly recommended for the reader at an early stage of interest, one who requires a one-volume history, or one with a general interest in air war history.

**TORPEDO LEADER**, by Wing Commander Patrick Gibbs, DSO, DFC, RAF, Grub Street, UK, 1992; 206pp, 22 photos.

Reviewed by Lex McAulay.

This is a book by the most successful Allied torpedo-bomber pilot of WW II. The subject is his tour of torpedo attack operations in the Mediterranean in 1942; he already had flown a tour in the UK, described in another book in 1941. Our successful bomber and fighter aircrew have been the subjects of numerous books, but there has been little published about the torpedo bombers — mainly because so few survived. As Wing Commander Gibbs relates, few torpedo bomber crews in the Mediterranean survived five operational flights. Torpedo attack in the RAF 1939-42 almost always meant flying a slow, poorly armed Bristol Beaufort aircraft at low altitude and low airspeed to within 1000 metres of ships which were firing automatic weapons and cannon directly at the Beauforts, which also were often under attack by the ship's fighter escort. After two hours of such flights, Gibbs himself collapsed, exhausted, in September 1942, and was discharged two years later.

This book describes in great personal detail Gibbs' tour in the Mediterranean in 1942, when the strategic situation required continued attack on convoys taking vital supplies from Italy to General Rommel's forces in Africa. Frightful losses in aircraft and crews were accepted. To Gibbs, spirits of the dead crews seemed to line the runway, cheerfully waving off their successors who were mounting the next strike. Gibbs has written from the view point of a Right and then a Squadron Commander, with only the information which was made available to him then. He makes it clear that he was not informed of the "Ultra" signals intercept role and as a base for the continued destruction of enemy shipping en route to Africa. In mid-1942, two battles were fought in which victory was essential for the defeat of the Axis powers: Midway and Malta. Only now, 50 years after the events, is due credit being given to the Malta campaigns and the men who defended the islands.

Laddie Lucas rose from Airman in June 1940 to become Commanding Officer 249 Squadron in June 1942. Outnumbered, operating in adverse physical conditions, on a tiny island 1600 kilometres from friendly forces, the RAF squadrons on Malta fought without respite for 10 months in 1942. Laddie Lucas describes the merciless actions and the almost daily losses, but the unique aspect of the book is his description, as a flight and squadron commander, of the squadron composition. 249 Squadron included Britons, Canadians, Rhodesians, New Zealanders and Australians. Laddie Lucas gives illuminating pen portraits of the young men from the nations of the Commonwealth who volunteered for aircrew, became fighter pilots, and went to the "fighter pilot's paradise: Malta". Of the many pilots who flew with Laddie Lucas, two examples are Paul Brennan DFC, DFM, RAAF, who scored 10 victories in 40 operational flights; the Canadian George Beurling claimed 28 victories with 249 Squadron. There has not been a book quite like *Malta — The Thorn in Rommel's Side*.

This book is highly recommended for anyone interested in the history of air war in general, and the study of fighter pilots in particular.


Reviewed by Vic Jeffery, Defence Public Relations.

*Barbed Wire & Bamboo* is a collection of stories of Australian POWs' experiences in both the First and Second World Wars. It explores and shows the contrast between European captivity and that of the Japanese.
During the Second World War Australian POWs in Germany and Italy numbered 7116, of whom 582 successfully escaped and 242 died in captivity.

Of Australians taken prisoner by the Japanese, more than one third died in captivity — 7777. Of this total, 27 were executed for attempting to escape and 193 for other reasons. Only 25 men succeeded in escaping from Japanese POW camps. These attitudes reflect the attitudes of the respective captors to their captives. The Germans and Italians generally observed the rules of civilised warfare towards their captives whilst the attitude of the Japanese authorities was quite different. As Japan was not a signatory to the Geneva Convention, the rules in Japanese POW camps varied from place to place and in most instances, depended on the individual officer in charge.

Divided into two sections, the first of 14 chapters covers Australian POWs in Europe and North Africa while the second section consisting of seven chapters covers Australian POWs in Singapore, Thailand and Japan.

Colin Burgess is responsible for the European prisoner-of-war section of this book and Hugh Clarke for stories about prisoners of the Japanese. Serving as a bombardier in the 2/10th Field Regiment in Malaya and Singapore, Clarke was captured at Singapore and survived such inhumanities and horror as those of Changi and Hell Fire Pass on the Burma-Thailand railway - the railway of death. He was finally liberated working in a timber yard in Fukuoka, Japan.

Born in the post-war "baby boom", Colin Burgess writes in a style of the writer eager to preserve the enormous contribution to Australia of the previous generations of men and women during times of war; the respect and admiration of these people shows in his writing.

This collection of absorbing true stories of POWs in two World Wars shows the courage, humour, and survival characteristics which is a tribute to the Australian character in times of adversity.


Reviewed by Lieutenant Colonel R.E. Bradford (RL).

Over the last 20 years, the Australian official defence community has developed and refined a conceptual basis for defence planning and force structure development which has been endorsed by successive governments during that time. Paul Dibb suggests in this work that unfortunately this basis has not easily won the acceptance of the Australian public at large and that a great deal of misinformation and misunderstanding continue because of it. This has been despite the fact that many of the policy and planning papers are unclassified and freely available for public perusal and comment.

This work is an attempt to increase public knowledge and awareness of defence conceptual basis by examining warning time, credible contingencies and the expansion base. In doing so, Dibb in the main covers the force structure priorities as they apply to the Australian situation. To assist in this coverage, he has included key abstracts from a number of defence policy and planning papers published since 1972, including his well-known report to the Minister of Defence in 1986, the Review of Australia's Defence Capabilities. The abstracts provide detail as to the development of the Australian self reliant defence posture over this period and their effects on force structure development.

The author does not really need any introduction. Professor Dibb is currently the Head of the Strategic Studies Centre at the Australian National University. This work adds to the already great contribution he has made in recent years to the defence debate.

To the defence reader, nothing new appears in this work, but to be fair to the author, this was never his aim. What it does do, however, is provide a deal of material on the defence planning and force structure considerations and processes. By the addition of the extracts, it also provides better than average reference material for those interested in furthering their knowledge on this ongoing debate.


Reviewed by Lieutenant Colonel R.E. Bradford (RL).

Australia has had a long and involved relationship with Papua New Guinea, initially based on Australia's administration of the territory on behalf of the League of Nations (and later the United Nations), and since 1975, as a neighbour and prime provider of aid. In addition, probably because of the colonialist type basis of the relationship, Australia continues to feel a degree
of responsibility towards the developmental problems of the country. In recognition of this responsibility, Australia has maintained a military presence in PNG other than that of a representational and training type in the form of engineer works organisations.

The West Sepik Province has a number of developmental problems which set it out as being different from the remainder of PNG. In relative terms it is isolated, poorly developed and lacks many of the basic ingredients necessary for successful economic development. As a result, the administrative and transport infrastructure of the Province are poorly developed and simply exacerbate the problems of future economic development. More importantly, however, the West Sepik has an increasing security problem which revolves around the activities of the Organisasi Papua Merdeka (OPM).

Because of the geographic location and isolation of the West Sepik Province, it is ideally situated for the OPM to base itself and carry out its operations into West Irian. These activities and the consequent reaction of the Indonesian military cause a deal of political and social instability in the region. The PNG military, due to economic constraints and their involvement on Bougainville are unable to maintain a sufficiently strong presence in the region and as a result cannot challenge the OPM and their activities in PNG.

The situation that faces 11th CE Works as it increases its strength in the West Sepik Province is full of challenges. Terry Boyce has recognised these challenges in this work, and has presented Australian military personnel deploying into the region with a comprehensive overview of the Province including geography, history of development, its present administrative and infrastructure layout, and importantly the challenges facing further development and security activities. As such, this book is an excellent brief on the West Sepik Province for 11th CE Works personnel. At the same time it would similarly benefit planners of any future military activities there. Particular note would have to be made by planners of the poorly developed port facilities, underdeveloped roads and communications networks and the limitation on the use of airfields by the larger aircraft in the Australian inventory.

Colonel Terry Boyce is an engineer who has been involved in a number of training and development projects in the South-West Pacific. This has included a posting as the OC 12th CE Works at Mendi in PNG, and more recently as the CO of the School of Military Engineering. He completed this work during 1991, while posted to the Strategic and Defence Centre at the Australian National University.

As mentioned earlier, this book would be excellent reading for military planners and those members of the military deploying into the Province. It succinctly provides the necessary operation and project planning information, and in the closing stages of the work identifies possible activities that would benefit the Province and ultimately PNG. The only minor criticism I could make is that like many works of this type it lacks an easily accessible map (possibly fold out), probably as a result of a low publishing budget. This small point in no way detracts from an excellent coverage of the infrastructure and security problems of the West Sepik.


Reviewed by Lieutenant Colonel R.E. Bradford (RL).

The decision by Prime Minister Bob Hawke on 10 August 1990, after his telephone conversation with President George Bush, to despatch two guided missile frigates and a support vessel to the Gulf, was met with a deal of Australian public controversy. His rapid response was praised by some commentators as demonstrating strong support to the upholding of international law and order. Other commentators, however, suggested it was simply another case of Australia blindly following the US lead against the general thrust of the Defence White Paper of 1987. In general terms, the response within Australia to the decision of the Government to join the US and her allies in reacting to Iraq’s offensive actions, was mirrored in the international community.

The aim of this book was to look at the reaction of the Asian Pacific community to the decision by Australia to become involved militarily in the Gulf conflict, and to review Australia's diplomatic attempts to persuade regional countries as to the need for such action. It also looked at the effects of the Australian decision on the attitude of regional countries to Australia and the implications of the decision on future regional security matters. Sadly, if this book is anything to go by, it would seem that Australia has a long way to go before its actions could be seen to have any great effect on the region.

Similar to the reaction within Australia, the regional reaction to the US-led interference in the Gulf conflict was mixed. It varied from pro-Iraq in North Korea and Vietnam, to in between in China, India, Indonesia and Malaysia, to outright support in countries such as
Japan, New Zealand, Papua New Guinea, the Philippines, Singapore, South Korea, Taiwan and Thailand. Regional reaction to the conflict was in the main, however, centred on the US lead in the matter and not on Australia’s involvement in it. In other words, Australia’s reaction was not seen as important or of concern to the regional countries.

There are a number of reasons for this. Many of the regional nations empathised with the situation of Kuwait and because of their limited defence capabilities, could possibly see themselves at some time in the future in need of similar international defence assistance. More importantly for Australia, this general lack of response may have been caused by other reasons within the control of Australia.

Australia appeared to fail to take advantage of the situation by a poor performance on the diplomatic front. There appeared to be a lack of consultation with the regional countries by Australia on the Gulf situation or her intentions in relation to a military response. Australia’s unilateral decision to commit defence resources, apparently as a result of a telephone call, had the potential to undermine Australia’s independence in the eyes of the regional community. Such unilateral action could be seen to confirm Australia as being in the US camp at the expense of regional commitment. Such a view could only place in doubt in the eyes of the regional community, Australia’s commitment to her twin policies of comprehensive engagement with South-East Asia and constructive commitment to the South Pacific.

Fortunately for Australia, the broad international support to the military response and rapid conclusion of the conflict may have limited the longer term effects on Australia’s policies. Nevertheless this unilateral approach and lack of consultation with regional countries indicates that Australia has a long way to go before it can truly become more closely integrated into the region and actively participate in the development of regional responses to changes in the strategic situation.

J. Mohan Malik is Lecturer in Defence Studies in the Faculty of Social Sciences, Deakin University. He completed this study during 1991, while he was a Department of Defence Visiting Fellow at the Strategic and Defence Studies Centre, Australian National University.

Given the limited regional interest in Australia’s involvement in the Gulf War, J. Mohan Malik had an uphill battle developing a detailed picture of the regional reaction. In many cases, he was only able to do so by drawing on comments on the US involvement, and by association, deduce that similar comments would also apply to Australia. As a result, the work suffers somewhat from this “guilt by association” and in many ways does not live up to its title. It does, despite this reservation, provide a more than adequate coverage of regional reactions to the Gulf War and is worthwhile reading for this reason.


Reviewed by Lieutenant Colonel R.E. Bradford (RL).

In an economic sense, Australia potentially has a great deal to lose in any ongoing rivalry between the United States and the emerging United States of Europe. This economic threat to our well-being would be greatly magnified should this competition for world economic superiority be widened to include Japan. In any competition between these immense economies, Australia and other economic middle powers would be swamped, as they lack any real ability to compete on the same scale. Given the continued failure of the Uruguay round of the General Agreement on Trade and Tariffs to come to a conclusion satisfactory to all parties, an increase in the economic competition would appear most likely. This book therefore, is a timely addition to the ongoing debate on the future of world trade and the subsequent effect on world security issues.

Europe, as a trading bloc, already challenges the US in numbers of consumers and Gross Domestic Product, and is well positioned to be an economic challenger to the US in the world market place. It possesses both the agricultural and manufacturing basis to be increasingly competitive in traditional US markets and the ability as a bloc to impede US activity in European markets, a traditionally active US destination for exports.

Economics, however, is not the only thing on the European agenda. The drive towards European political unity is gathering momentum, to the extent that the creation of a new global power is becoming an increasingly strong possibility. The growing economic strength of the newly unified Germany and her assumption of a central role in the European Community, suggests other more traditional problems.

The break-up and ongoing decay of the USSR raises further questions as to the need, viability and effectiveness of NATO, the continued requirement to base US troops in Europe, and to the security situation in general. It is generally accepted that European countries will take a larger share of the burden from the US in the functioning of NATO, but in doing so will try to ensure that the US continues to play a part in European security and not become isolationist.
The future of US/European relations remains unclear, due to the many and variable economic and security factors. Because of the complex and fast-moving nature of these problems, Henry Brandon as editor, selected eight leading personalities from five countries to give their views on the new order and possible outcomes. The writers included politicians, a columnist, a banker and an industrialist. What resulted was a well-balanced coverage of the problems facing not only the economic and security challenges to the relationship, but also glimpses at the education, social, cultural and legal concerns.

The book does not pretend to be a crystal ball. The writers have avoided trying to predict where the policies of the players are taking them, but instead as individuals, and by skilful editing, as a group, provided a picture of the characteristics of the players, their desires and plans. The reader is consequently left with a feeling of uncertainty as to the details of the future of Europe and the part the US will play in it. The reader is also left, however, with a feeling that having left the worst century in relation to conflict and economic disasters that Europe has ever had, the possibility of a constructive and prosperous future beckons. Australian readers could also be excused from drawing lessons from this book for Australia in the development of her ongoing relationships with South East Asia. If the lessons could be quickly learnt, hopefully the prognosis might also be as good.

THE COMMANDERS, by Dr W.M. Horner, Allen & Unwin. 355 pp including index.
Cost: $29.95 RRP Paperback.

Reviewed by WGCGR Mark Lux. RAAF.

The Commanders is a new paperback release of Dr Horner’s successful 1984 hardback edition of the same name. This edition is virtually identical to its predecessor except the biographical details of the contributors have been updated. The book is in fact a collection of 16 essays on Australian military leaders of the twentieth century.

Dr Horner introduces the book with an explanation of the choice of commanders included and some topical comments regarding the concept of leadership and generalship. The purpose of the book is to analyse the performance of selected Australian senior military commanders under the stress of action and policy-making. The reader is left to ponder the question, “What makes a successful commander?” The essays that follow seek to provide some answers. Unfortunately, because of the selection criteria, there is an overwhelming bias towards Army officers (Scherger and Creswell the exceptions), but this should not detract anyone from enjoying this publication.

Divided into three sections: the First World War, the Second World War and Post-Second World War, commanders are presented in their own right without any intentional link between them. Notable of these are Monash, Sturdee, Chauvel, Lavarack, Morshead and Blamey. Those less known include Wilton, Herring, Vasey and Robertson. More than descriptive biographies, these papers are scholarly discourses which examine the man, his command and importantl, the interaction between the commander and those he commanded. Not all the essays are flattering. Blamey and Gordon Bennett for instance, could generate controversy and it is up to the reader to make up their own mind. Nevertheless, the essentials of each commander’s methods and personality are included and each paper is very readable.

As far as presentation is concerned, this book is excellent and definitely good value for money. It is illustrated with 44 photographs, 27 campaign maps and has comprehensive endnotes and index. Tables of comparative ranks and glossary are also included. The binding and print quality are first class despite being glued and the paper is heavy and durable.

At $29.95 the publication represents excellent value and for professional military officers, is highly recommended.


Reviewed by John Buckley.

The first book to be published about the total operations of “Z” Special Units during 1942-1945, it has been researched, collated and written after a wide search of official documents and discussion with many of the survivors.

Much care has been taken by “Gruff” Courtney to blend all of the stories into a well integrated narrative. No person is better qualified to write this book than the author, who obviously has given it much thought over several decades.

An excellent insight of an extremely brave and dedicated group of young soldiers who served behind the enemy lines, knowing that capture would mean instant death or torture. It is hard to contemplate the constant fear of being betrayed by a people they were trying to help or the fear of capture by an inhuman enemy, yet
these young soldiers did just that for long periods. Having experienced the anxiety and tension of being behind enemy lines in the Syrian desert, albeit for a short time, I have great admiration for those persons who, by choice, worked behind the lines in the South West Pacific Area - the salt of the earth!

Typically, Courtney is very modest about the contribution the "Z" Special Units made to the war effort. He does not single out individuals for special achievement above their fellows, although a few had to be cited for outstanding leadership and most extraordinary courage. All who served in these operations were very brave men otherwise they would not have served with the Unit. As well as the heroic exploits, think also of the most frightful conditions in which these Units operated - jungle, disease, climate and terrain, subject to long periods of isolation and ever constant danger - abnormal conditions for most, but which for them were normal in their day to day operations.

"Gruff" Courtney can be well satisfied with this book. It makes a substantial contribution to Australian military history and should readily find a place on military bookshelves — indeed, it will appeal to the general reader of class publications who will marvel at the exploits revealed between its covers.

Prefaced with a fine foreword by Brig. W.H. (Mac) Grant, RFD,fittingly Courtney's book was published by the husband and wife team of R. & S. Austin, continuing on the first class standard previously set with The White Ghurkas, Kurrah and Rough As Bags. Being an Australian concern, I hope they continue to publish more high class books on military history subjects.

THE ARCHITECT OF VICTORY: AIR CAMPAIGNS FOR AUSTRALIA, by G. Waters, Strategic and Defence Studies Centre, ANU. 223pp including index. Cost: $18.00 RRP Paperback.

Reviewed by Wing Commander Mark Lax, RAAF.

This publication is the 74th Canberra Paper on Strategy and Defence produced by the SDSC at ANU. Wing Commander Gary Waters, the author, was at the time the RAAF Visiting Fellow at the Centre and has contributed a number of papers on airpower issues. His credentials include involvement in the writing of the AAP 1000 - RAAF Airpower Manual, a posting to RAAF Staff College as the Director of Airpower and Air Operations Studies and editorship of a previous Canberra Paper (No. 71) titled "RAAF Air Power Doctrine: A Collection of Contemporary Essays".

Comprising six chapters, an introduction and conclusion, the book concentrates on the three air campaigns: Control of the Air, Air Bombardment and Air Cooperation. Chapters five and six further examine the aspects of cooperation (Air/Sea and Air/Land), To quote Waters' own introduction, "This monograph begins by arguing the importance of classical theory, discussing the derivation of aerial strategies for Australia, and accepting RAAF doctrine when it refers to these strategies as air campaigns". The paper then goes on to present these campaigns in terms of their constituent parts, discusses the historical relevance of each, looks at present defence policy and strategy and states implications for the effective employment of air power in Australia. Not all readers will agree with Waters’ thesis regarding the employment of airpower in Australia, nor with some of his definitions. I for one disagree with this use of the term "Campaign" (also used in the AAP 1000) to discuss what I see more as methods of employing airpower in its ubiquity. Herein lies potential for much confusion and misunderstanding of what airpower is all about.

Having said that, the publication gives a fair account of itself, although I suspect to most of the readers in the air force, it is preaching to the converted. I was most pleased with the historical approach taken, since we too often forget that the only thing new under the sun is the history we have not yet read. The historical approach combined with a focus on Australian issues makes this paper more interesting than the title sounds. The paper does lapse occasionally into a single Service lean, but this is probably unintentional given the nature of the subject. For example, in referring to Air/Sea Cooperation, "... performance limitations of rotary wing aircraft will necessitate the use of RAAF aircraft, especially where long endurance and high speed are in demand". In discussions on airpower, land-based aircraft are not necessarily RAAF aircraft.

The book is worthy of consideration, particularly for Staff College students, since it complements rather than repeats the AAP 1000 and provides an excellent cross-reference to many of the AAP 1000 terms. The publication is in standard SDSC format, is well printed and at $18.00 is good value for money. Recommended for readers who want to know more about airpower and its employment.
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