Contributions of any length will be considered but, as a guide, between 2000-5000 words is the ideal length. Articles should be typed double spaced, on one side of the paper, or preferably submitted on disk in a word processing format. Hardcopy should be supplied in duplicate.

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Front Cover
A member of the Federation Guard and a pupil from the Australian School in Singapore share a moment of commemoration with a World War II veteran at the Kranji Cemetery in Singapore.

Photograph by Sergeant W. Guthrie.
As part of their training personnel from 9th Brigade use extendable mirrors and torches to check a vehicle suspected of being a possible security threat. Photograph by Corporal Mark Eaton.
Positive Discrimination in US Army Promotion System

Dear Editor,

A 68-page ruling by a District Court in the USA has struck down the US Army promotion system on the grounds that positive discrimination “... undeniably establishes a preference in favour of one race or gender over another and is therefore unconstitutional”.

The case was launched by Lieutenant Colonel Raymond Saunders when he was twice unfairly denied promotion to colonel. Another nine similar cases are being actively pursued by other officers. Many more are being prepared. There will no doubt be unsuccessful appeals by the Pentagon but an important breach has been made in the walls of institutional discrimination, including the false buttresses of “positive discrimination”, impeding the advance of the US military. The case will therefore be followed by many in the ADF with some interest and not just because “positive discrimination” here has similar shallow foundations.

We could reasonably define unfair and unlawful discrimination in the context of ADF promotion as the taking of decisions based on irrational or unwarranted beliefs about a candidate’s background, abilities or future employability.

One of the great ironies of contemporary ADF life is the amount of effort expended to eradicate perceived anti-female discrimination in our promotion systems when far worse actual discrimination continues relatively unrecognised, unmolested or targeted. The need for a second-wave assault on unfair and unlawful discrimination grows ever more urgent.

I suspect there will be many non-Seamen Branch or non-PWO officers in the Navy, non-Arms Corps officers in the Army and non-General Duties officers in the Air Force who will follow the US case with some attention. Victims of Army’s dreaded WIRM should also be quite interested.

Despite the increase in nominally “joint” positions since DER, their degree of attention will be exceeded only by those officers with extensive backgrounds in real joint appointments. This group of victims have found such a career background to be somewhat of a marked handicap in promotion systems still heavily rigged in favour of single-Service ticks in the box and heavily skewed by well outdated single-Service biases.

The vexed question, within an increasingly joint-focused ADF, of promotion in the Army becoming increasingly harder than in the other two Services will also be affected by such a second-wave assault on unfair and unlawful discrimination.

There will, of course, be continued resistance to such an assault from the vested interests who benefit from the current discriminatory promotion systems. Their first line of defence will be the unsubstantiable claim that the current systems are fair or otherwise justified. Some may even genuinely believe this thus – providing more ironic proof of the inadequacy of the ways we choose many of our higher decision-makers.

Other privileged recipients of preferment and discrimination may genuinely but mistakenly believe that the current systems work because “I’m good and I got promoted”. Hopefully the US precedent will shatter such complacency before ADF professionalism is too severely affected.

Simple deductive reasoning, especially consideration of skewed bell curves and the increasing resort to discriminatory practices such as “weighting” and “indexing” to arbitrarily differentiate between candidates,
strongly indicates our promotion philosophies and systems are collapsing under the weight of their internal contradictions, external pressures and cultural ballast.

Simple inductive reasoning also strongly indicates the increasing gravity of the situation. After all, when so many good people are not being awarded the promotion they have earned, something fundamental must be wrong.

How long will it be now before the first Federal Court injunction in Australia to stay the promotion of an officer unfairly or corruptly promoted over a more deserving colleague?

Furthermore, if the ADF does not act now to introduce stringent reforms we may very well see our promotion systems subject to external validation as recently occurred in the NZDF for promotion to and above one-star appointments.

Neil James
Lieutenant Colonel
JSO1 Joint Plans (J53)
HQ JFNZ

Australian Defence Force Members
Make sure you claim all your entitlements from the Tax Office this year

The end of the financial year is here again, which means it’s time to start thinking about getting your tax return organised.

To help you with your tax return, the Tax Office has produced a publication specifically for Australian Defence Force members.

This booklet outlines common things Australian Defence Force members need to know when claiming work-related expenses. It also contains other useful tips to help complete your tax return, and ensure you claim all your entitlements.

As an Australian Defence Force member, some of the things you may be able to claim as deductions include:

- the cost of fitness expenses only if you are required to maintain a very high level of fitness, well above the ADF general standard and you earn your ADF income by performing a range of duties designed to keep you physically prepared. This applies to physical training instructors and members of special combat squads. If there is a private component to the expenses, you cannot claim a deduction for that part.

- a compulsory uniform, which is a set of clothing that, worn together, identifies you as an employee of an organisation having a strictly enforced policy that makes it compulsory for you to wear the uniform while at work. You can claim a deduction for the cost of buying, repairing and cleaning a compulsory uniform such as a military uniform.

More information is available in "Occupational Ruling Summary - Australian Defence Force members" which you can get from the Tax Office from late June.

When you’re ready to lodge your tax return, you might want to try e-tax, the Tax Office’s free electronic tax return preparation and lodgement software.

e-tax allows you to lodge your tax return with the Tax Office over the Internet. It does most calculations automatically and features secure lodgement software.

Most people who lodge their tax return using e-tax receive their refund within 14 days. To download e-tax visit the Tax Office website from 1 July, 2002.

For more details about the “Occupational Ruling Summary - Australian Defence Force members”, check TaxPack, e-tax, visit the Tax Office website - www.ato.gov.au, call the Tax Office Publication Distribution Service - 1300 720 092, the Personal Tax info line on 13 2861 or contact your tax agent.
Attaining 54,000?¹

By Thomas Schindlmayr and Commander Peter Ong, RAN

In outlining Australia’s future defence force, the 2000 Defence White Paper presumes a rise in the number of permanent Defence personnel from 51,500 to 54,000 over the next ten years, or an increase of nearly 5 per cent over present personnel numbers.² On the face of it, this appears to be an innocuous increase and a less than ambitious target. However, the White Paper goes on to note that:

Recruiting and retaining sufficient numbers of people with the right qualities and levels of experience will be one of the most significant challenges in building the ADF of the twenty-first century.³

This admission is no understatement, for as we will highlight attaining the envisaged 54,000-figure is one of the greatest tests facing the ADF over the next ten years and beyond. Premised behind this assertion are the likely demographic and socioeconomic changes affecting Australian society over the next decade. These are explored here, as are their relevance to the ADF.

Australian Society

Over the next decade, Australian society is likely to see a significant transformation in its age structure and composition. The dominant drive behind Australia’s demographic and socioeconomic change is the inevitable ageing process, caused by falling fertility rates and higher life expectancy. Over the next decade, the median age of the population is expected to increase from 34.9 in 1999, to 36.9 by 2006 and 38.5 in 2011. Put another way, the percentage of people aged under 15 years will continue to decline, comprising 20.4 per cent of the population in 2000 to 17.9 per cent in 2010. Concurrently, the percentage over 65 will rise from to 12.3 per cent to 14.0 per cent. The percentage of the population in the ADF critical recruiting age group of 18 to 35, will also decline (Figure 1). Were this figure to be broken down, however, it would reveal many more people aged towards 35 than 18.

These demographic trends will drive socioeconomic changes, particularly in the labour market. Historically, there were sufficient young people to fill jobs, but with fewer young people entering the labour force changes to the make-up of labour markets are unavoidable. In assessing the labour market prospects of 16 Organisation for Economic Cooperation and Development (OECD) countries over the next 50 years, McDonald and Kippen conclude that developed countries will face labour shortages as labour supply stagnates.⁴ Australia is likely to avoid the predicament of decreasing labour supply found in several industrialised countries due to its migration intake. Migration, however, will not solve Australia’s ageing problem, rather it will merely delay the inevitable. Continued labour supply will be dependent on increases in the labour participation rate. This can be achieved by asking males to work longer and to increase the number of females in the labour force aged 25 and over.

With continued economic growth likely over the next decade,⁵ young people will be in ever-greater demand, leading to heightened
competition among employers. Opportunities for young people will exist not only in Australia, but also increasingly overseas where salaries are likely to exceed those here. As all industrialised countries face increasing shortages of young people in the future, global competition for the best and brightest will undoubtedly intensify. In the face of tight labour markets, organisations will need to reconsider their views of older workers and if they can afford to ignore them.

Why is this relevant to the ADF?

Some readers may argue that these demographic and socioeconomic changes are irrelevant to Defence so long as it continues to attract new recruits. Here though lies the crux of Defence’s problem. Defence already has a serious personnel shortfall and as the recruitment pool dwindles the task of attracting new enlistees will become ever more difficult.

The number of permanent personnel serving in the ADF has declined steadily from a post-Vietnam high of 73,185 in 1982. Except for 1991 at the height of the economic recession of the early 1990s, separations have exceeded enlistments in the ADF since the early 1980s. In the 1990s, the number of permanent members fell by over 25 per cent (Table 1), exacerbated by the Force Structure Review (FSR), Commercial Support Program (CSP) and the Defence Reform Program (DRP). All Services have been affected, with the largest percentage decline occurring in the Air Force (35.1 per cent), followed by the Army (21.5 per cent) and Navy (18.2 per cent). Present levels are below desired strength; posing problems for the ADF and compromising its overall effectiveness. The Navy, for example, is now at the point where shortfalls in skilled personnel prevent ships from being at sea for as long as originally planned.

While disconcerting in themselves, these figures say nothing about the composition of Defence personnel. The ADF remains largely male oriented; failing to reflect the diversity of Australian society. Despite women now
making up 43.3 per cent of the Australian labour force, the number serving in the ADF declined between 1995 and 2000 both in actual numbers and as a percentage. In 2000, women made up just 12.8 per cent of ADF permanent members, and their numbers had declined from 7,698 in 1995 to 6,507. This is despite the increased opportunities for women to join the ADF provided through a number of Government-led initiatives over the last 15 years. Other sectors of society, such as people from an ethnic background or of Aboriginal and Torres Island descent, also remain underrepresented.

Numbers alone cannot adequately reflect the capacity of the ADF. Arguably, of greater concern than the shortfall in personnel numbers are the critical skill shortages found throughout the ADF. The issue here is two-fold. First, Defence must be able to recruit and retain people who possess the skills and experience that Defence requires, such as information technology, flying and warfare. There are also critical shortages in a number of trade areas. Moreover, the ADF must provide an environment that encourages members to stay after they have completed their training. Members who leave the Service to take up opportunities elsewhere often take with them skills and qualifications that Defence can ill-afford to lose. This situation is further aggravated as the ADF tends to recruit people from the bottom and people move from here up the career ladder.

**Ageing**

Like the rest of society, the ADF is ageing. During the 1990s, the median age of males in the ADF rose from 28 in 1991 to 29 in 1999, while the rise for females was more pronounced increasing from 23 to 27 (Table 2). Navy has the most youthful age structure and the Air Force the oldest. By comparison, the median age of the Australian workforce is 37.7 for males and 36.5 for females. For the Australian population as a whole, the median age is 34.9. Although ADF members are generally younger than the general population, there are worrying signs including the ageing

<table>
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<th>Service</th>
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<td>28</td>
<td>28</td>
<td>29</td>
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</table>

trend for female ADF members which is double that of the Australian female workforce.

The traditional ADF recruitment pool of young people aged between 18-35 will continue to shrink both in terms of the percentage of the population and according to Australian Bureau of Statistics (ABS) estimates. Not getting sufficient young people to join the Services will exacerbate the ageing of the Services. The problem of attracting 18-35-year-olds is made more difficult by the negative perceptions of this age group towards Defence, as well as opportunities offered elsewhere in society. A recent study on the attitudes of youngsters towards Defence found many students in years 10 to 12 place greater emphasis on personal freedom, self-interest and lifestyle, than regimentation, military training and a willingness to serve. While many found the benefits of joining the ADF appealing, the concomitant obligations were not. Other assessments on the attitudes of young people and their willingness to join the Services were equally unfavourable. In the face of increased opportunities elsewhere, getting young people to join, especially those with skills and qualifications that are in demand, will test the ADF’s capacity to recruit.

Future Personnel Numbers

The Defence White Paper warns that ADF personnel strength could decline to 42,000 by 2010 if the recruitment and separation trends of the two years before its release continue, or nearly 25 per cent off the 54,000 target. Another study finds that this scenario may be too optimistic. Based on the recruitment and separation trends of the late 1990s, and assuming that the ADF does nothing to rectify the situation, numbers could be more like 37,500. Declines will occur in all three Services, with the largest fall in absolute terms occurring in the Navy and the Air Force. Of course, long-term projections of this kind are by their very nature fraught with problems. They obviously cannot take into consideration such factors that determine recruitment and separation trends as economic conditions, changes in the job market, and community attitudes towards Defence. Nevertheless, given the expected changes in Australian society, declines in permanent personnel numbers of the type projected may eventuate.

Conclusion

The 2000 Defence White Paper claims that:

*The strength of Australia’s military forces has always been the quality of its people.*

Yet, arguably, when assessing Australia’s ability to defend itself, and the means to do so, the issue of personnel has often received short shrift compared to hardware considerations. Given the likely changes in Australian society, this way of thinking seems outdated for personnel concerns now demand greater attention by Defence planners and political policy-makers than ever before. How best to stem the flow of highly skilled individuals leaving the Services, and more importantly to deal with shortfalls in new enlisting, requires careful deliberation and innovative responses. A change towards greater focus on personnel has occurred in recent years, albeit slowly, but more needs to be done. Already the ADF has undertaken such personnel policy changes as abandoning the upper recruitment age limit, changing staffing profiles, the introduction of a range of family support initiatives, and establishing more flexible working arrangements. These are undoubtedly just the beginning of a number of new measures to enhance the appeal of the ADF to its present and future members.

Other dilemmas may also require debate in the future, including the thorny questions of quantity versus quality of permanent members and whether technological enhancements can offset dwindling personnel numbers. Should the projected shortfall eventuate then other strategies will need to be developed to ensure Australia’s ability to defend itself.
NOTES
1. This article is based on a longer report entitled the Defence Personnel Environment Scan 2020 prepared by Mercadier on behalf of the ADO.

Thomas Schindlmayr is with the Demography Program, Australian National University, Canberra and has worked as a consultant to the ADO on demographic and socioeconomic trends.

Commander Peter Ong, RAN, is Deputy Director Strategic Personnel Planning of the Defence Personnel Executive. He has extensive experience in strategic workforce planning within Defence and initiated the Defence Personnel Environment Scan 2020 project.
The Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation

By Lieutenant Colonel M. Kavanagh

Millions of gallons of water polluted, millions of dollars spent. Those two facts suggest a crucial message: if we can’t truly clean up after ourselves, then the only common sense thing to say is that we really shouldn’t do it in the first place.

Seth Rolbein – Association for the Preservation of Cape Cod.

Introduction

The first United Nations Conference on the Human Environment, held in Stockholm in 1972, marked recognition by national governments that human activities were placing serious pressures on global environments and that significant changes were required to ensure environmental protection. Since then, considerable progress has been made in understanding environmental processes and the human impact upon them, as well as developing technologies and processes to reduce those impacts. Despite these achievements, however, environmental degradation continues to occur throughout the world.

As the US Government walks away from the 1997 Kyoto Protocol on Climate Change amid world criticism, it is timely to study the enormous efforts that the US Department of Defense is making to rectify the environmental damage caused to one of their ranges by almost a century of military use. This article will examine the environmental damage that has been caused at the Massachusetts Military Reservation and the methods that are being employed to repair the damage. Lessons for the Australian Defence Organisation will also be drawn from the US experience.

History of the Massachusetts Military Reservation

The Massachusetts Military Reservation (MMR) is located within the New England region of the United States. The reservation occupies approximately 80 square kilometers, or almost 10 per cent, of the internationally famous Cape Cod region.

Military use of the reservation began in 1911 and continued throughout World War I. At that time, the Cape Cod region was a remote part of the world and the area that now forms the MMR was either forest or sheep farms. From 1935, use of the MMR increased significantly in the build up to World War II when it was expanded to become a divisional-sized training area. For the next four years, the MMR became the largest construction project in Massachusetts. The new facilities were formally opened in 1939 when more than 8,000 soldiers from the Army National Guard Bureau’s (NGB) Yankee Division conducted their summer training.

This construction effort, however, would be dwarfed following US entry into World War II in December 1941. More than 18,000 people were employed on the base to construct 1400 buildings within 75 days. The facilities were designed to accommodate 30,000 personnel, but within months more than 50,000 personnel were undergoing training. The pace of activity continued over the next four years as troops
were prepared for deployment to the Pacific, North Africa and finally Europe.

Activities on the MMR changed with the start of the Cold War in the mid 1950s. As the MMR is located in one of the most easterly areas of the USA, it was an ideal base for the US Air Force to launch 24-hour blanket radar surveillance flights. The flights covered from Newfoundland to Florida "so that the Russians wouldn't be able to pull off a sneak attack". Commencing in 1955, the reconnaissance flights continued until 1969.

In 1957, the MMR was chosen as a site to house nuclear weapons. Whilst the US Department of Defense (DoD) hasn't confirmed the type or quantity of nuclear weapons deployed on the MMR, there were 28 hangars capable of housing two rockets each. The rockets used either liquid or solid rocket fuel, depending on their type, and remained on the MMR until 1973. From this date, the US Air Force employed a Precision Acquisition Vehicular Entry Phased Array Warning System (PAVE PAWS) which is a powerful microwave radar facility used to detect attacks launched by nuclear submarines.

Environmental Impact

On the MMR, the industrial area was the most actively used part of the reservation. During World War II, Army operations in this area included numerous transport compounds and vehicle workshops where activities such as vehicle repairs, parts cleaning, oil changes, panel beating and repainting were performed. Between 1955 and 1972, Air Force operations involved the use of petroleum products and other hazardous materials such as jet and rocket fuels, motor oils, cleaning solvents and the generation of associated wastes. Consistent with civilian practices of the time, it was usual for many years at the MMR to dispose of such wastes in landfills, drywells and via the sewage treatment plant. Spills and leaks also occurred. The training areas have also been extensively used for many years to live fire the full range of divisional weapons.

From an environmental perspective, it has been determined that the MMR is located over an aquifer (known as the Sagamore Lens). The aquifer is a large, 100 metre deep layer of groundwater, which is replenished by rainwater that seeps down through the soil. In general, soils in the vicinity of the MMR are sandy and permeable and permit rapid groundwater movement (between 0.3 and 0.5 metres per day). Pollutants that are deposited in the soil can be introduced to the aquifer by rainwater as it moves down through the sandy soil. Once in the aquifer, the plumes of contamination can move for many kilometers as the groundwater makes its way to the sea.

Unlike the Australian Department of Defence, the US DoD does not have an equivalent of our Infrastructure Division to manage their property and estate matters on a tri-Service basis. Each of the individual Services is responsible for the management of their facilities and ranges. This will become a key point when problems are encountered on the MMR and responsibilities for their remediation need to be assigned.

Environmental problems with the MMR were first noticed in 1978 when authorities at a nearby town began receiving complaints from their consumers that their drinking water was "foaming". When it was tested, high levels of detergents were detected. The Massachusetts Department of Environmental Protection (MADEP) ordered the use of the well be discontinued and provided bottled water. The town's water supply came from a well that was about two kilometres from the MMR Sewerage Treatment Plant. When the source of the pollution was traced to a plume of contamination originating at the sewerage treatment plant, residents took legal action against the Air National Guard (ANG) to reimburse costs and to replace the town’s water supply.
In 1982, the Installation Restoration Program (IRP) was initiated by the Air Force to investigate and clean up environmental problems at the Otis Air National Guard portion on the MMR. The IRP began an environmental survey to identify and evaluate potentially contaminated sites, including historical records review, installation of groundwater monitoring wells and the collection and analysis of groundwater, soil, surface water and sediment samples. In 1985, the survey was expanded to include both on- and off-base testing of residential drinking water. High levels of volatile organic compounds were found not only in a number of the on-base wells, but also in the private wells of four local towns. Some of the groundwater samples contained so much jet fuel that they could be set alight. The Association for the Preservation of Cape Cod used these “burning water samples” to publicise their cause and to generate political and media support. Alternative wells were used for the on-base water supply and bottled water was provided to the affected off-base residents until they could be connected to a municipal water supply, all at ANG expense.

In 1986, the IRP was expanded to include Camp Edwards (the NGB portion of the MMR) and the US Coast Guard Air Station Cape Cod so that a coordinated environmental survey of the MMR could be undertaken. Remediation, however, was still a single-Service responsibility. By 1987, 73 areas of concern had been identified and it was recommended that 21 sites be investigated as a matter of priority. The areas of concern included landfills, coal yards, storm water drains, fire fighter training areas and areas where fuel and chemical spills had been reported. Contaminants detected at the 21 sites included volatile and semi-volatile organic compounds, polychlorinated biphenyls, polynuclear aromatic hydrocarbons, waste oils and heavy metals. All contaminants were found at very high concentrations, some more than 100 times in excess of MADEP’s Health Advisory Standards. MADEP issued a Notice of Responsibility to the ANG to conduct assessment and remediation in compliance with Commonwealth of Massachusetts’ Regulations.

In 1989, remediation of the MMR passed from state to federal responsibility when the US Environmental Protection Agency (EPA) assumed the role of lead environmental regulator. The change in responsibility occurred following receipt of a petition from local residents concerned with the pace of remediation and the EPA’s addition of the MMR to its Superfund National Priorities List. Investigation and limited remediation of the environmental problems caused by the MMR continued over the next few years. However, the scale of the environmental impact that was being detected on the ANG portion of the MMR from decades of high use and poor environmental practices continued to grow. Finally, in 1996, following community outrage at IRP’s proposed Remediation Master Plan and test results indicating certain contaminants at more than 1,000 times the EPA’s Health Advisory Standards, the US DoD designated the Air Force Centre for Environmental Excellence (AFCEE) as the lead agency for the MMR IRP and provided significant additional funding. This was, unfortunately, more than 18 years after the first environmental impacts on the surrounding communities were detected.

AFCEE’s arrival indicated that the US DoD was serious about repairing the environmental damage that had been caused on the MMR. Within weeks, a strategic plan was developed outlining an aggressive schedule to accomplish the MMR clean up. A remedial action contract was awarded to place hundreds of affected houses on municipal water supplies, two full-time community involvement positions were created and three technical people were hired, with another 15 employed over the next few years. The MMR IRP website was created, giving the public access to information about
planned and ongoing clean up activities and addressing the community’s concern over their perceived exclusion from the problem. Over 60 public meetings were held in 1996 alone. Strategies for more extensive community outreach and risk communication were developed.

The numbers associated with the environmental damage emanating from the MMR are difficult to comprehend. It was estimated in 1994 that more than 200 billion litres of Cape Cod’s aquifer had been contaminated and it was estimated that another 30 million litres would be contaminated each day if action was not taken to contain the pollution. When the AFCEE assumed responsibility for the MMR there were 15 known groundwater plumes, some up to two kilometres wide, originating from the MMR with most having migrated beyond base boundaries. The MMR and towns up to 20 kilometres surrounding the reservation had drinking water supply wells that had been affected by the plumes of contamination. Several freshwater ponds used for recreational activities, local harbours and two rivers were also affected by the plumes.

The MMR now has towns on all sides, which support a permanent population of approximately 200,000 with a peak holiday population of more than 500,000. Pollution associated with the MMR, rapid population growth in the area, and limited availability of potable water supplies have led to projections of future water shortages.

Remediation Methods

Some of the remediation methods that have been used, or are currently being used, on the MMR include:

a. Extraction wells, where contaminated water is pumped to the surface, filtered, tested and returned to the aquifer. Approximately 50 million litres are treated by this method each day and, since 1993, it is estimated that approximately 40 billion litres have been treated by this method.

b. Low Temperature Thermal Desorption, where contaminated soil is aerated in a kiln set at approximately 85°C. Fuels and solvents bound to the soil are turned to gas allowing the soil to be tested and returned to its original location. The hot air is passed through a series of filters to remove the contaminants before being released. Approximately 61,000 tonnes of material from the MMR were treated using this method at a rate of 13 tonnes per hour. Remediation using this method has been completed.

c. Capping of landfill sites, where layers of synthetic clay, 20 mm plastic sheets and over 750 mm of sand are placed over a contaminated area to prevent rainwater passing through the contaminants and into the aquifer. More than 90 acres of landfill sites have been capped using this method.

The MMR is also being used as a full-scale test site for some developmental remediation methods. It is not known how well these developmental methods will work, but test results appear promising. The developmental methods include:

a. Air sparging, where air is pumped down to the contaminated water which carries the fuel vapours back to the surface where it can be drawn off.

b. Bioremediation, where genetically engineered, carbon eating bacteria are introduced to a plume to consume the contaminants.

c. “Magic Sand”, where contaminated water is passed through an underground pipe filled with iron filings. The filings have a natural positive charge, which attract and hold negatively charged chlorine substances.
Impact on the Air National Guard and Army National Guard Bureau

The impact on the ANG of the environmental damage caused to the MMR and surrounding areas is mainly financial. Work practices have been improved to meet or exceed current environmental requirements and to prevent any additional environmental damage.

The impact on the NGB, however, has been far more significant. As water testing continued, RDX, lead and TNT began to be detected in the samples at more than 100 times the EPA Health Advisory Standards. This was a significant development as the contamination was not being caused by poor environmental practices that had occurred decades before, but by the on-going use of the training and impact areas by the NGB. On 25 July 1997, the EPA issued an Administrative Order for Response Action to the NGB under the Safe Drinking Water Act directing the NGB to cease all live fire practices on the MMR. The silencing of a military training area because of concerns about what that activity might do to the groundwater had never occurred before in the USA.

The NGB is now forced to use other military reservations for live firing. Compared with the MMR, all three options involve additional travel of more than 600km for a return journey and reduce the amount of time available for training. The NGB is concerned that the reduction in live fire training opportunities and the increased travel may have an impact on their retention figures. It is anticipated that it will take until 2007 before the MMR is clean enough for the EPA to lift their restrictions. There is, however, a possibility that the EPA restrictions on the MMR will never be lifted.

Impact on Local Communities

It has been determined that Cape Cod has an elevated cancer rate which is amongst the highest in Massachusetts. Depending on the study and the type of cancer, rates on Cape Cod have been determined to be between 13 per cent and 75 per cent higher than the state average. Breast, prostate and lung cancers are particularly high. Whilst there are many people who would like to blame the MMR for the increased incidence of cancer, no single cause for the problem has been identified. Despite numerous studies, the MMR is just one possible cause of the problem. Pesticides that were sprayed on Cape Cod for many years to support the cranberry industry or to control mosquitoes and moths have been identified as another possible cause. Air pollution and groundwater pollution from other sources, such as municipal sewerage treatment facilities and household septic tanks, have also been identified as possible causes. What is clear from the cancer statistics is that there is ample cause for concern and that studies will continue until the problem is resolved. Until then, the MMR remains under suspicion.

Costs

Just as the scale of the environmental damage caused to the MMR and surrounding areas is difficult to comprehend, the costs associated with investigation and remediation of the environmental damage are equally large. The most recent costs are detailed in Table 1.

Table 1. Cost of Environmental Remediation at MMR as at 31 May 2001

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Current Situation on the MMR

The most recent information available from the MMR IRP indicates that the remediation methods are beginning to take effect on the ANG sites. Many of the source areas have been eliminated and the majority of plumes have reached steady state. In some cases, the plumes are actually being reduced via treatment and natural attenuation. It has also been determined that there is “almost” no new groundwater contamination. The project team would like to say that new contamination of groundwater has ceased but such a statement is believed to be premature at the present time, despite the significant results achieved. What can be stated though, is that the remediation process is on schedule to have the ANG sites declared clean in 2007.25

The NGB, however, is just commencing remediation of their sites. The aim is to have the NGB portion of the MMR declared clean by 2007 as well. The NGB has also recently recommenced live firing of 5.56mm weapons using what is called “green ammunition”. The US Army Environmental Centre has developed a non-toxic 5.56mm round by replacing the lead in the projectile with tungsten. Whilst initial production costs are slightly higher for the “green ammunition”, it is anticipated that the life cycle costs will be significantly lower than the current lead based ammunition when range clean up costs are included. The US DoD has determined that the cost of removing metals from soil generally ranges from $US200 to $US500 per cubic metre, depending on site conditions. The “green ammunition” should avoid these costly clean ups. Work is progressing on the development of 7.62 mm and 9 mm “green ammunition” which will allow the NGB to recommence live firing of these weapons on the MMR.26

Implications for the Australian Defence Organisation

The Association for the Preservation of Cape Cod has stated that pollution created by the United States Military is the most important environmental issue facing the USA.27 The work being undertaken at the MMR is the most ambitious military base clean up in the United States, to date. Many of the processes and technologies developed to resolve problems on the MMR will influence how environmental problems on other US and foreign military facilities are addressed in the future. The Australian Defence Organisation (ADO) can learn some valuable lessons from the mistakes and experiences of the US DoD.

From an international perspective, the ADO is in an enviable position. Our management of training areas has been acknowledged as world class. At the Shoalwater Bay Training Area, the ADF is able to train with the defence forces of allied nations in an area that is listed on the Register of National Estate for its conservation value and which has a World Heritage Listed Area and National Parks as neighbours.28 This has only been achieved by placing a high priority on environmental issues and through the application of sound management practices. We are, therefore, fortunate that the US experiences at the MMR serve only as a timely reminder of what can go wrong if environmental standards are allowed to fall.

The enormous cost associated with remediation of the MMR would significantly strain an already tight ADO budget if we were required to undertake similar remediation on an Australian training area. Program cuts would be required to release the necessary funds. Meeting our training and readiness requirements without access to key training areas would also be difficult. The loss of any live fire training area, such as Shoalwater Bay, Mount Bundy, Singleton or Holsworthy would seriously impact upon training across a broad range of force elements. These problems can, and must, be avoided.

The ADO, however, cannot rest on its reputation as environmental standards continue to be raised. Since 1974, Defence has been subjected to the Federal Government’s
Environment Protection (Impact of Proposals) Act. While Defence was not obliged by this act to comply with State or Territory Environmental Legislation or Local Government Regulations, Defence had adopted a “good neighbour policy” of compliance where the additional regulations did not conflict with military requirements. This changed on 16 July 2000 when the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) became law. Whilst the impact of the change in legislation on Defence activities is yet to be fully addressed, Defence may now be required to comply with all State, Territory and Local Government Regulations. The EPBC Act also appears to apply to visiting forces, where this has not applied previously, and to ADF personnel, vessels and aircraft anywhere in the world. Whilst this may require Defence modify some of our current practices, the problems encountered at the MMR should remind us of the consequences that can occur when risks are taken with environmental management.

Conclusion

Through a combination of bad luck and bad management, the US DoD has found itself in a situation where it has a base so contaminated that it will be spending more than $US 1.2 billion to clean it up and it is doubtful that it will ever be re-opened for live fire training apart from limited small arms practices. The main cause of the environmental problem is that the MMR is located in an environmentally sensitive area. The sandy soil allowed the contaminants to move a long distance in a relatively short period of time and this was compounded by poor waste management practices adopted on the reservation for the majority of its existence. Whilst the practices met industry standards of the time, it is now apparent that far more rigorous standards were required to prevent environmental damage. The urban development and encroachment since the reservation was first established also helped to uncover the environmental damage that was emanating from the MMR. The MMR, despite being established in an isolated area, is now surrounded by towns that support a holiday population in excess of 500,000. These people also have substantial resources, both scientific and financial, that were mobilised to publicise the issues and gain political support.

The ADO, in comparison, is in an enviable position with our management of training areas being recognised and rewarded for being world class. However, the US DoD experiences on the MMR and the recent introduction of the EPBC Act remind the ADO that we must continually strive to maintain the balance between defence requirements and environmental management.

NOTES

4. op. cit., The Enemy Within: The Struggle to Clean Up Cape Cod’s Military Superfund Site, p. 22.
7. ibid., p. 38.
8. ibid., p. 46.
10 US Congress established the EPA’s Superfund Program in 1980 to locate, investigate and clean up hazardous waste sites throughout the USA. It is funded by the US Government and “responsible parties”. Obtained from the United States Environmental Protection Agency Web Page, www.epa.gov on 7 Jun 2001.
11. op. cit., About Face: Clean Up, Conflict and New Directions on Cape Cod, p.11.
13. op. cit., *About Face: Clean Up, Conflict and New Directions on Cape Cod*, p. 78.
15. Remediation results obtained by email from AFCEE Project Manager for MMR IRP on 14 June 2001.
18. op. cit., *About Face: Clean Up, Conflict and New Directions on Cape Cod*, p. v.
20. op. cit., *About Face: Clean Up, Conflict and New Directions on Cape Cod*, p. vi.
21. ibid., pp. 59, 70.
22. op. cit., *The Enemy Within: The Struggle to Clean Up Cape Cod’s Military Superfund Site*, pp. 61, 69.
23. Email from AFCEE Project Manager for MMR IRP on 11 June 2001.
25. Email from AFCEE Project Manager for MMR IRP on 11 June 2001.
26. US Army Environmental Centre Fact Sheet on Non-Toxic Small Calibre Ammunition.

**BIBLIOGRAPHY**


Rolbein, S. *About Face: Clean Up, Conflict and New Directions on Cape Cod*, Association for the Preservation of Cape Cod, Orleans, Massachusetts, 1998.


*Massachusetts Military Reservation Munitions and Other Environmental Investigations - Applications of Innovative Technologies*, presented by MMR Project Coordinator for the National Guard Bureau at the 2001 UXO/Countermine Forum, 12 Apr 2001.

www.chrm.une.edu.au
www.epa.gov
www.mmr.org

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Future Warfare in the Information Age

By Major Peter Schofield

The spectrum ranges from the 13-year-old hacker... it even includes foreign intelligence services and hostile nation states that want to use information warfare against the U.S. Our potential adversaries would probably launch an asymmetrical attack to get at our soft underbelly, which is our infrastructure.

Michael Vatis
FBI agent National Infrastructure Protection Center

Introduction

The Australian Army is awash with acronyms and buzzwords: BOS, POSTED, RMA, IO, C4ISR, “the knowledge edge”, “fighting smart”, “battle-cunning”, “asymmetric”, “system of systems”, “non-linearity”, “network-centric-warfare”, “dynamic battlespace”. The foregoing acronyms and buzzwords are a quick sampling of one small document, LWD 1.¹ The Australian Army is falling into the trap of substituting impressive sounding technical jargon for true substance. A small scratch on this thin veneer of “professional mastery” will show it to have no more solid a foundation than fairy floss.² The Army likes to think it is embracing the future of warfare in the Information Age, however as recently as August 1999 doctrine and definition was so lacking with regard to Information Operations that the entire Battlespace Operating System (BOS) was omitted from all instruction on the Intermediate Operations Course. In 2000, following the Army’s most significant operation in a quarter of a century, staff at the Australian Army Command and Staff College still struggled to define what is meant by the new crop of buzzwords or to give concrete examples of information operations and fighting smart. The Australian Army is not at the leading edge of these issues; rather it is flapping wildly in the slipstream.

The aim of this article is to describe possible future warfare in the Information Age and show that the Australian Army does not currently have the concepts or doctrine to achieve success in that environment. To do this I will provide some definitions relevant to discussion of future warfare, information operations and the Information Age in order to provide a foundation on which further discussion may be based. The differences between current conventional operations and some possible future scenarios will then be examined.

Definitions

Some observers may be inclined to speak of the coming Information Age while others believe it has already arrived. For the purposes of discussion I will nominate two key events defining the start of the Information Age. The Information Age was conceived in 1990 when Tim Berners-Lee demonstrated prototype software for a basic World Wide Web (WWW or Web) and was born in May 1994 when the First International World Wide Web conference was held at CERN.³ By the end of 1994 the Web had 10 million users. It is important to distinguish between information and the Information Age. The Information Age has come about due to advances in technology. Without the requisite technology there would be no Information Age. This technology allows data to be concentrated, rapidly processed and widely transmitted. “Before the Wright brothers, air, while it obviously existed, was not a realm suitable for practical, widespread military operations. Similarly, information existed before the Information Age. But the Information Age changed the information
realm’s characteristics so that widespread military operations within it became practical.”

Within the Australian Army the term “information operations” (IO) is used, however it is poorly defined. LWD 1 speaks of some of the results one may wish to achieve from IO but stops short of actually defining the term. For the purposes of discussion I shall use Fogleman and Widnall’s definition of Information Warfare as the definition of Information Operations, i.e. “any action to deny, exploit, corrupt, or destroy the enemy’s information and its functions; protecting ourselves against those actions; and exploiting our own military information functions.” It should be noted that IO relate to an information function, not the means of achieving it. Bombing a telephone exchange is an IO as is corrupting the exchange’s software.

I further define “cyber operations” (cyberops) as those IO that specifically exploit information systems and associated technology to carry out the operation. Cyberops are a subset of IO. In the previous example the bombing of a telephone exchange is an IO but not a cyberop, corrupting the exchange’s software through the introduction of a computer virus would qualify as a cyberop.

The Nature of Future Warfare

The Information Age will transform the conduct of “all military operations by providing commanders with information unprecedented in quantity and quality.” However, “some elements of war will not change significantly. Even in the information age, war will remain a human endeavour”. The basic reasons for war will not change; fear, hatred, greed, ambition, revenge, pride, principles or religious convictions will remain the root causes. The warriors of tomorrow may encompass the “mobile infantry” in their high tech body armour as envisioned in Starship Troopers, an overweight geek behind a computer launching war-winning cyberops or a “Johnny Mnemonic-type” with a hard wired head and a brain full of downloaded information but “information age war will not be remote, bloodless, sterile or risk free – it will still be war. Death and destruction, traditionally the currency of war, will remain so in the information age.” So “although the conduct of war will be different in the information age, the nature of war will remain remarkably the same”.

I believe there will essentially be three types of warfare in which the Australian Army may find itself. The first is not dissimilar to current and recent conflicts around the world with the exception that commanders will benefit from the Information Age in the quantity and quality of information available to them as described above. The second type of warfare will be characterised by IO. In particular enemy IO may be directed at undermining the legitimacy of operations, the integrity of coalitions and appealing to the public’s distaste for scenes of death and destruction. This type of warfare, under the ever-present eye of the modern news media, will become more and more prevalent. The third type of warfare will again involve significant use of IO but more specifically cyberops.

The Australian Army’s concepts and doctrine neatly encompass the first type of future warfare. Plans to acquire the capabilities to benefit from the Information Age in this type of warfare are reasonably well advanced. This type of future warfare will not be further considered. As recently as late 1999 the Army had no formal doctrine to effectively conduct the second type of future warfare. Doctrine on IO was not available in time for it to be tested by INTERFET. Although this is an area that is receiving some effort in the Army at present, it will be some time before commanders can be confident that robust doctrine and appropriately trained staff are available. The Australian Army has no doctrine for the conduct of the third type of future warfare.
This is a type of warfare that is likely to occur in the future and if not addressed will result in embarrassment for the Australian Army at best or defeat for Australia at worst. For these reasons this third type of future warfare will be examined in more detail.

Click, You’re Dead

In 1995 the US Defense Information Systems Agency (DISA) attempted to hack into over 26,000 unclassified Department of Defense computers. By direct “front door” attack and exploiting the trusted links to computers that were easily broken into, they were able to penetrate a total of 86 per cent of the computers. 98 per cent of the intrusions were undetected and of those that were detected only 5 per cent were reported. The detection and reporting statistics suggest that up to 200,000 illegal intrusions might have been made during 1995. It would be naive to believe that attempts are not made on Australian systems and even more so to believe that Australian security was any more effective at preventing intrusions. In my experience of Australian defence local area networks (LAN) it has been common to find that anti-virus software is not up to date, daily back ups of data are not done for as long as a week, joke emails including executable files from the Internet are commonly forwarded among work colleagues and the understanding of computer security issues is particularly low.

In a future conflict Australia would be a good target for enemy cyberops for a number of reasons: It is a high technology country with a very connected infrastructure, it may possess conventional superiority over a regional adversary, the cost of entry for adversaries to acquire the appropriate tools for cyberops is low, our population has a low tolerance to disruption and death. These factors may lead an adversary to be wary of a direct confrontation with Australia’s military forces in a conventional manner and rather to opt for a cyberop that promises a high payoff for low cost. Information Operations may act as a force multiplier for conventional forces in conventional conflict, but it is when they are used in an asymmetric form against a conventionally superior adversary that their true value can be realised. The Information Age has seen the flowering of the Super-Empowered Angry Man where a single person or small group can have a disproportionate effect thanks to cyberops. An early example of this was the email attack on the Sri Lankan Embassy in Washington DC in September 1998 which forced the embassy to shut down its email service due to the number of bomb threats and junk emails.

Some may consider that hackers roaming through unclassified computer systems or denying the use of email for a short period of time are an inconvenience but hardly war. The following scenario describes how Australia could suffer a military defeat by a determined adversary using cyberops. It should be noted that the technology and techniques described are all feasible today and in fact most have been for a number of years, the threat is now!

How Australia Lost its First War of the 21st Century

Australia is involved in a conflict where it is assisting a regional country that has been threatened with attack by a neighbour. The scenario is not entirely dissimilar to that of training exercises used for the Intermediate Operations Course and Command and Staff College. However, the US is reluctant to commit troops and the potential invader, Musoria, has not yet crossed the border. Australian forces are preparing to deploy in order to deter aggression. Musorian forces are aware of many of the details of the forthcoming Australian deployment because they are entering computer systems at will in military areas and reading the many reports
and emails that are buzzing around the corridors of power. Much of this early planning by Australian staff should not have been carried out on the low classification systems being penetrated, but there are insufficient secure terminals. The Musorians are able to penetrate, undetected and at will, due to an operation they conducted two years earlier to place “trap doors”. The Musorians know that the first Australian troops will be landed by C130 aircraft flying in in rapid succession over a few days and are prepared for the arrival. The weather is stormy, as usual for the time of year, and the aircraft are landing with minimal lighting due to reported gunfire. A group of Musorian sympathisers has set up near the main APOD and have intruded on the air traffic control system, which is still being operated by Fantasian civilians at this stage. In the darkness and with the hectic schedule of landings the sympathisers are able to issue air traffic instructions that lead to a C130 landing on a taxiing aircraft. Almost two complete companies of 2RAR are killed in the ensuing fireball.

After hearing the explosions at the airport, the sympathisers signal their sister group located elsewhere by sending a message using their mobile phones. The sister group transmits an email to all major media companies in the world, as well as to a mailing list of 80 000 addresses they purchased from a bulk mailing company, explaining that they are oppressed Fantasians who want the Musorians to come to their aid and further offering support for Musoria’s claims. The email contains the Web address of the group, which is actually being run in Amsterdam by Musorian foreign exchange students via an anonymous web service account in Finland similar to the service offered by anon.penet.fi during the late 1990s. The resultant publicity is incredible: CNN, Reuters, ITAR-TASS and AP immediately broadcast the message along with the Web address. The Web site starts receiving hits from around the world minutes later and after 24 hours has received over 40 million hits. The first systems to access the site start to crash. The web site had a Trojan Horse embedded in it and using a programming flaw similar to the one discovered in February 1996 it had accessed the hard drives of all accessing computers and left the Trojan Horse set to go off in 24 hours. This caused the greatest destruction of data ever seen in the computerised world but in particular it affected defence and law enforcement computers as these were naturally the first to visit the site.

The multiple aircraft crash along with the fear generated in the public by the mass computer disaster quickly inflamed debate in Australia. The public was aware of the Musorian point of view from reading the web site and had some sympathy for it. They did not have the stomach for more disasters at home or for the sight of burnt Australian diggers on the six o’clock news. While Townsville mourned its dead, demonstrations erupted in all major Australian cities demanding an end to Australian involvement in “somebody else’s” war. The pressure became too much for the Government and the Prime Minister appeared on TV saying she would “bring our boys home”. Australia had suffered a humiliating defeat while Fantasia was forced to come to a negotiated settlement with Musoria, much to its disadvantage. And the only shot fired was by an Australian NCO in the advance party who had yet another unauthorised discharge (UD).

Conclusion

The Australian Army is struggling to come to terms with the Information Age. Many of its officers can quote the latest buzzwords and acronyms but few understand what they mean by them. Of the three types of future warfare likely to be encountered by the Australian Army; conventional with much improved quality and quantity of
information, information operations and cyber operations, its doctrine and concepts currently accommodate only the first type. Effort is currently being expended on developing doctrine for the second type, IO, but this is well overdue. There will also be a significant time lag between development of the doctrine and having a large population of officers trained in that doctrine. The Army has no doctrine to deal with cyberops. The Information Age is already upon us. The rapid development of technology and techniques that has been experienced in recent years is likely to continue. If the Army’s doctrine and concepts continue to lag two steps behind the potential threat posed by developments of the Information Age it is only a matter of time before an adversary gets inside our “OODA loop” using “network centric warfare” poses an “asymmetric threat” by “fighting smart” with “knowledge edge” and defeats us without firing a shot.

NOTES
2. ibid.
3. CERN: Organisation Européenne pour la Recherche Nucléaire, European Organization for Nuclear Research. Dates are provided by CERN, however CERN makes no claims regarding the start of the Information Age, the definition is the author’s alone.
5. LWD 1, op. cit., p. 6–13.
7. For a definition of computer virus see http://www.symantec.com/avcenter/virus.backgrounder.html. Virus is used to include Trojan Horses and Worms in this article.
11. See www.geek.com for a full definition of the term geek and an enlightening insight into geek culture!
14. ibid.
17. ibid., p. 324.
19. The scenario involves FANTASIA which is a country to the north and has a northern land border with a hostile neighbour, MUSORIA.
20. The Washington Times, 26 Feb 1998 Reports that such an operation appears to have been conducted against US systems when hackers broke in to at least 11 US military systems in February 1998. Four Navy and seven Air Force systems are known to have been penetrated and although little damage was done it appears that the intention of the attack was to install trap doors to enable the perpetrators to return without detection. The attacks were revealed by Deputy Defense Secretary John Hamre and an official said that “It’s unclear we’ll be able to find all the trap doors they put in”.

BIBLIOGRAPHY
Fogleman and Widnall, Cornertstones of Information Warfare, 1996.
www.geek.com
The Washington Times.
The Requirement for Specialist Army Electronic Warfare Officers

By Major M. J. Kitchin

The development of specialists should be considered for personnel required to provide detailed advice to senior commanders on communications, electronic warfare or information systems.

Major M. Thompson

Introduction

While General Officer Commanding Training Command, Major General Keating observed that “There is little doubt that the future battlefield will be more complex and demanding on both men and machines...[with] vast amounts of information available from intelligence systems and sensors”2 that the role of the Royal Australian Corps of Signals on this battlefield is both diverse and complex would generate little argument.

Nor should the significance of Electronic Warfare (EW) in the future land (or joint) force be in doubt – this has been proven in countless papers and publications over the last decade.3 However while there is widespread acknowledgement of the requirement for EW systems on the future battlefield, there has been little thought given to the scarcest, most dynamic and least replaceable aspect of the systems described – personnel. The leadership of these capabilities must be of the highest calibre and professionalism. The officers who command, lead and manage the future EW organisations must be experts.4 Decision action times will significantly reduce – there will be greater reliance on the EW squadron commanders, operations officers, duty officers and liaison officers to conduct first and second line analysis in order to provide timely and accurate advice to the commander.5 EW officers currently do not receive appropriate training to achieve this, a situation compounded by a career development path that does not permit the officer to gain suitable experience in the application of tactical EW in support of land operations.

This article will discuss the current arrangement for the development of RASigs and the requirement to have a realistic training and career progression for EW officers. A model for training and career progression of EW officers will be proposed. However, in order to understand why there is a deficiency under the current model for RASigs officer career training and progression, it is first necessary to conduct a comparison of the competencies required and training of communications and information systems (CIS) and EW officers within the corps.

The Current Situation

Core competencies and the development of expertise

The components of RASigs are both diverse and complex. Diversity evolves from grouping the provision of communications, information systems and electronic warfare systems into one corps, while complexity is evident from the sub-elements of each of these systems. Figure 1 illustrates the diversity and complexity of RASigs; it is a sobering view of the vast assortment of components an RASigs officer must, under the current philosophy, not only be aware of but have “expertise” in. Also represented is the overlap of individual capabilities within the separate components of the corps, as well as the interaction between EW and other battlefield operating systems (BOS). While EW has long been considered as a source of intelligence, the Gulf War firmly
cemented the integration of electronic attack (EA) with the application of joint fires. In addition, Australia leads the world in the integration of tactical EW with strategic signals intelligence (SIGINT) to form a seamless reconnaissance, intelligence and surveillance capability to the commander.

It is not intended to imply that the conduct of tactical electronic warfare is more complex than the provision of communications and information systems (CIS) support – nor however, is it any less so. What should become apparent is that the considerations for electronic warfare and CIS are vastly different, and that it is unrealistic to expect one officer to become an expert in both fields, and yet still continue to provide a high level of service to the supported commander. Table 1 is an extreme view, used to illustrate the differing considerations required in the planning and conduct of CIS and EW operations. In reality both CIS and EW officers should have a conceptual understanding of both sides of the equation, and it is for this reason that both capabilities will remain within RASigs. However it is unlikely that one officer is capable of becoming an expert in both fields.

<table>
<thead>
<tr>
<th>CIS Officer Consideration</th>
<th>EW Officer Consideration</th>
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<tr>
<td>C2 Architecture Own use of EMS</td>
<td>Own EA and ES capability Comd CCIR</td>
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<tr>
<td>ES Capability EA Capability</td>
<td>Adversary C2 Architecture En use of EMS</td>
</tr>
<tr>
<td>Own CIS capabilities and vulnerability</td>
<td>Nodal Analysis En CIS/EMS capability and vulnerability</td>
</tr>
<tr>
<td>CIS Operations for friendly operations</td>
<td>Plan EW Operations to deny en use of EMS</td>
</tr>
<tr>
<td>Dominate use of the EMS</td>
<td>→ Result ← Deny use of the EMS</td>
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Table 1: Comparison of CIS and EW planning considerations
Ford and Kraiger consider that expertise is defined as “the achievement of consistent, superior performance through the development of specialised mental processes acquired through experience and training”.

Does the current system provide the experience and training necessary to develop expert EW officers? Regimental experience will only come from a well-balanced career progression and this will be discussed shortly. As for training; the current corps training continuum does little more than prepare RASigs officers to conduct CIS operations with some base knowledge of EW.

**Training**

Individual training is conducted in four key career phases – pre-commissioning (ADFA and RMC), junior ranks (all corps and specialist-to-corps training from lieutenant to major), Command and Staff College, and post-staff college. Within the specialist-to-corps training, the Regimental Officer Basic Course (ROBC), Regimental Operations Course (ROC) and Regimental Officer Advanced Course (ROAC) are intended to prepare officers for appointments in Land Command units at the ranks of lieutenant, captain and major respectively. The current level of EW training provided to RASigs officers during these courses is the minimum required to conduct CIS in an EW hostile environment. It does not suitably train EW practitioners, nor is it likely to with the current level of training provided.

The RASigs ROBC is approximately one hundred working days long. While this is indicative of the diversity and complexity of the corps, it is doubtful that the two periods spent introducing junior officers to the fundamentals of employing EW on the battlefield is sufficient. It is undeniably insufficient when troop commanders posted to 7th Signals Regiment (EW) are expected to provide accurate EW advice to a unit commanding officer, isolated from the experience of their superior officers and trade supervisors. And what if those same superior officers are also in their first EW appointment as operations officer (OPSO) or commander? The time dedicated specifically to EW on the ROC is even further reduced, with planning considerations for EW operations absorbed into several periods of “discussion” on Spectrum Warfare and the role of RASigs in Information Operations (IO). Yet the role of this course is ostensibly to “prepare officers to serve as OPSO in CIS or EW units within Land Command”.

The ROAC provides a suitable macro view of EW, but does not provide satisfactory training to prepare an officer with no previous EW experience to command an EW Squadron or effectively represent the capability to a formation commander.

The knowledge deficit currently left by formal Training Command courses is corrected at 7th Signals Regiment (EW). Captains and majors posted to the regiment for the first time do the same EW Liaison Officers (EWLO) course as new troop commanders. This is entirely unsatisfactory, as OPSOs and Squadron Commanders should be expected to have a higher level of knowledge than the junior officers they command, rather than being on par. In addition, these officers are essentially barely becoming suitably knowledgeable when posted from the unit, losing the knowledge from the EW community as there is a low probability that the officer will return due to the lack of suitable career development principles to develop and grow “expert” EW officers.

**Gaining Experience – Career Progression**

In comparing Army leaders to other professionals, Major General Hickling (as Land Commander Australia) observed that “...battlefield leaders are different from all other professionals in one important sense...battlefield leaders must be grown. They must be selected, trained, developed and nurtured...”.

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**THE REQUIREMENT FOR SPECIALIST ARMY ELECTRONIC WARFARE OFFICERS**

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Unfortunately it is generally considered that by “streaming” an officer into becoming an EW specialist, the officer will not gain suitable “broad” experience to allow opportunities to progress to the higher ranks. Accordingly, any officer within RASigs may be posted to an EW position within Land Command at any point in their career. While describing his time at 7th Signals Regiment (Electronic Warfare), the US exchange officers noted that “learning [the] tactical employment of ground EW is a unique trade”,11 at the same time commenting that “to be thrust into 7 Sig with no formal EW experience is a tall order”.12 During an operational analysis in East Timor during Operation Warden, Colonel Breen discovered there was concern expressed by junior specialists that the knowledge base of officers was extremely limited, with the problem exacerbated by not knowing what they did not know.13

The conduct of tactical EW is an art, not a science. Any officer can learn the fundamentals given adequate training, but to be truly effective requires practice, practice and more practice, to be able to assimilate the flow of information from sensors and incorporate it into the overall tactical or strategic picture. The EW officer is required to integrate various sensors with other BOS, understand the unique capabilities and limitations of their soldiers, and continue to provide accurate and timely advice to the supported commander. Meigs describes this as the operational art.14 The science of EW is the equipment, the technology that makes the capability, and the theory explaining use of the electromagnetic spectrum. This is common across RASigs, and it is for this reason that EW continues to reside in RASigs. This problem is not limited to RASigs. A lack of officers with suitable experience in specialist RACT capabilities to provide sound advice to commanders and planning staff was evident during Operation Warden, with officers considered to be “too generalist”.15

It is not suggested that RASigs officers should be “streamed” into electronic warfare, but rather that EW should be recognised as a specialty within the corps. Furthermore EW officers should receive a suitable continuum of training and progression of career to “developed and nurture” the expertise required to provide highly effective tactical EW support.

A Proposed Way Ahead

The critical period for development of the professional EW officer is between commissioning and attendance at Command and Staff College (C&SC). Accordingly, it is imperative that development of a career progression plan commences at the earliest stages of the officer’s career, with suitable training provided to support this progression.

RASigs officer career development

DI(A) PERS 47–1 defines General Service Officers (GSO) as “those officers whose education, training and experience prepare them for employment in a wide range of corps and non-corps regimental, training and staff appointments”.16 Amplification from the RASigs Careers Advisor indicates that informal guidance for officer career development requires a Land Command posting at each rank, non-corps exposure, a staff job and a “balanced profile”.17 Even if some appointments are mutually inclusive of two or more criteria, any officer within RASigs would be pressed to become an “expert” in any one corps aspect. The argument that all RASigs officers need EW experience to become “rounded” within the corps in order to advance to the higher ranks is not only unsound but also nearly impossible based on the guidance. Indeed a single posting to 7th Signals Regiment (EW) as a senior captain or junior major does not provide sufficient depth of experience to constitute a “well-rounded” career, and risks diluting the little experience and corporate knowledge that is attained by those officers who return to the EW fraternity.
This will be detrimental to the capability in the long term. Accordingly it is proposed that a clear delineation be established between Communications and Information Systems (CIS) officers, and Electronic Warfare (EW) officers within RASigs. RASigs officers should elect a career path within the corps at (or soon after) commissioning. This career path should provide the officer with structured development to promote expertise in core competencies, while allowing broader development in the wider Army through non-corps and joint postings.

Table 2 illustrates one possible career progression for a professional EW officer, including alternative appointments within rank. In addition to the suggested appointments, there are approximately 600 non-corps appointments between the ranks of lieutenant and major. Together with extant and future overseas posting opportunities, this offers ample opportunity to gain experience across Land Command and the broader Army.

The ADF is among the most “joint” military organisations in the world. Keating and Dunn both remark that today’s officer must not only be more aware of the joint environment in which we operate, but must be capable of working jointly from the earliest stages of their career. Within RASigs this is not just important – it is critical! This is especially true of EW, where officers are required to interact both individually and collectively as part of the ADF EW organisation. For that reason, agreements for exchange postings with RAN and RAAF EW units should be established to not only further broaden the officer within core specialty, but also meet requirements for joint experience.

The system will not apply to all RASigs officers, nor will it be capable of withstanding all of the variables involved in meeting Service needs. Nevertheless, as a basic principle for developing RASigs officers with greater
specialist expertise, it will ensure that officers in key CIS and EW appointments are more capable of providing the most accurate advice to the commander as well as the best leadership to the soldiers of the corps. However in order to be truly effective, it will require a matching continuum of corps training.

**A proposed training continuum**

To support this career progression, and in order to produce officers who go beyond mere “competence” in their chosen field and become “experts”, there is a requirement to redevelop the training continuum of the RASigs officer. It is inappropriate that the bulk of the EW training for RASigs officers is conducted on arrival at 7th Signals Regiment (EW), and even more inappropriate to have new troop commanders receiving EW training alongside their OPSO and Officer Commanding (OC). Furthermore, as corps specific courses are intended to prepare an officer for appointments in the immediate future it is uneconomical to train officers outside their area of specialty. Keating states that in the future, time will be our most precious resource, with time spent on training to the disadvantage of incumbent units. By tailoring course to officers’ short-term future employment, it will be possible to prepare officers for their next appointment and return them to their units in shorter time. Figure 2 illustrates a proposed training continuum for RASigs officers from commissioning to attendance at C&SC.

The duration of the proposed courses requires detailed analysis by a Training Development Officer, and is beyond the scope of this article. As newly commissioned lieutenants, the first appointment course (ROBC) should be aimed at providing the skills required to lead a troop. It should be noted that the technical module should remain in corps...
THE REQUIREMENT FOR SPECIALIST ARMY ELECTRONIC WARFARE OFFICERS

courses as a common component – we remain, after all, a technical corps. From the intermediate course (ROC) onwards, RASigs officers should commence attending Joint courses. This should not be opportunity-based attendance for a selected few officers, but rather recognition of the joint nature of CIS and EW by attendance on courses such as those conducted at the Australian Defence Force Warfare Centre (ADFWC). Attendance at the ADFWC Joint Communications Planning or Joint Electronic Warfare Planning Course could become the specialist module of the corps intermediate and advanced courses.

Conclusion

The diversity and complexity of RASigs suggests that a more structured and controlled management of our officers’ careers, supported by dedicated specialist training will lead to the development of officers approaching Ford and Kraigers definition of “experts”, and capable of functioning on the battlefield described by Keating.

Hickling notes that we should not let technology force our officers to become specialists – this fact is not in contention. In order to effectively apply EW on the future battlefield, and equally as importantly, to prevent EW becoming once again isolationist, it is imperative that RASigs officers continue to develop with experience and training outside the core function. This should be achieved through careers balanced between RASigs appointments where officers concentrate on a specific aspect of the corps capability such as EW, and non-corps (generalist) appointments aimed at broadening the officer’s knowledge and experience of the Army’s capabilities.

Career progression of a small number of EW officers through 7th Signals Regiment (EW) and other EW postings may happen by chance. This needs to be firmed into an established process to ensure that there is a core of officers who have strong EW experience throughout their career, and will be most likely posted back into EW appointments throughout their career. The model described above achieves this while ensuring that RASigs officers continue to receive well-rounded general experience within the wider Army to allow progression to the higher ranks.

NOTES

3. The bibliography lists many titles authored in the last 10 years which described the importance of EW on the modern battlefield.
4. The definition here is not limited to 7 Sig Regt (EW), but includes various staff appointments where the incumbent is conducting EW planning or providing EW advice to commanders and their staff.
8. Army School of Signals Training Management Plan for the 2001 ROBC.
9. Army School of Signals Training Management Plan for the 2001 ROC.
12. ibid.
13. Colonel R., Breen, personal contact, 9 Oct 01.
15. Anecdotal evidence from Post Operations report, provided by CA RACT, Sep 01, personal communication.
17. Major M. Rodda, personal contact, 26 Sep 01.

BIBLIOGRAPHY

Major Matthew Kitchin graduated from the Royal Military College, Duntroon in June 1992. His career includes a short period in the Royal Australian Corps of Transport including postings to Headquarters 1st Air Transport Support Regiment and 176 Air Dispatch Squadron.
On transferring to the Royal Australian Signals Corps Major Kitchin was posted to 7 Signal Regiment (Electronic Warfare) as an EW Troop Commander followed by postings as Second-in-Command of 140 Signals Squadron Brisbane, Electronic Warfare Liaison Officer, the Restructure of the Army Trials Officer at 1st Combat Support Unit (now 1 CSR), the CISEW Plans Officer (S65) on Headquarters 1st Brigade, and a Watchkeeper at Land Headquarters.
On promotion to Major in January 2001 he assumed the duties of Staff Officer Grade Two Electronic Warfare at Land Headquarters.
Transforming the Officer Initial Training Faculty (OITF) of the Royal Australian Naval College (RANC)

By Lieutenant Jason J. Kirwin, RAN

There is good reason to say that today we are seeing the emergence of a new stage in the military-technical revolution, based on high technology. All of this requires new approaches to the organisation of the military education and training system.

Kabakovich (2001)

The Officer Initial Training Faculty (OITF) Transformed Vision Statement

The Officer Initial Training Faculty (OITF) is committed to providing unique innovative officer initial training to the Navy. The Revolutions in Military, Business and Educational Affairs demand that the OITF become the catalyst for transforming the Navy into a learning organisation by means of empowering the naval leaders of the 21st century.

Part 1: Macro and micro management and leadership differences identified between the historic and emerging educational environments.

Current Environment

The Navy is currently facing a set of unprecedented conditions in the broad field of HRM (inclusive of education and training). These conditions have combined to produce a unique environment full of challenges for Navy leaders. The Defence Personnel Environment Scan 2020 (2001) identifies a number of measurable performance indicators reflective of these current challenges, they include; recruitment targets not being met, unacceptably high separation rates and a weakening of the personnel experience base in Navy (and ADF in general).

The reasons for the presence of these poor performance indicators are complex but in part, due to the change in Australian demographics and societal norms. Several of these change agents, such as the shift in strategic resource from an industrial to an information society and labour shortages were alluded to as early as 1988, in a sub-committee inquiry paper by Sub-Lieutenant Purkiss, RAN.

The conjunction of current circumstances and emerging change agents will give rise to significantly more challenging human resource issues that the Navy will need to address if it is to be “a [A] Navy with a worldwide reputation for excellence as a sea power; a well equipped, professional team of highly motivated quality people, serving Australia with honour, supported by a nation proud of its Navy” (Department of Defence, 2000b).

Emerging Change Agents – Trends in Australian Society (Revolutions in Business and Military Affairs)

In recent years Australian society, like the majority of societies around the world has been witness to fundamental changes to its structure as Australia transitions to a knowledge-based and global community (NBEET, 1996; and Nunn, Cupper & Kennedy, 2001). Carmen Zanetti in her address to the inaugural Defence Education & Training Conference (Zanetti, 2001, p. 22) suggested generational issues would also be an important consideration, claiming four generations (Baby-Boomers, Generations X and Y) will routinely be found in the workplace, with different attitudes on workplace and workforce transformation, change management,
technology and lifestyle. Sloper (1994, p. 8) supports the commonly held belief, that generally employee loyalty to an employer is weaker in this new community suggesting enlistment has changed from “what could be seen as nationalistic reasons, to enlisting for more employment related reasons – with an associated change to what is seen as a job in the Defence Force rather than a career”. The Defence Personnel Environment Scan 2020 (2001, p. 110) maintains young people’s attitudes toward careers will be strongly influenced “by technology, the Internet, corporate restructuring and outsourcing, globalisation and continuous change. Most will neither give loyalty or expect it from a company, will change companies regularly and will focus on skills rather than location”. Schmidtchen (2000, p. 19) believes changing expectations of work will emerge as a key theme from the significantly larger numbers of school leavers completing higher education courses. Notably, the Defence Personnel Environment Scan 2020 (2001, p. 110) reports companies are changing their recruitment policies in response to these trends.

In papers published by Sloper (1994, p. 9), Schmidtchen (2000), Jones, Murray and McGavin (2000, p. 15) and the Defence Personnel Environment Scan 2020 (2001), all acknowledge the decline in the traditionally targeted 17-24 year old demographic section of the population as being of significance. Bergin (1994) suggests the ADF will have to consider recruiting from the widest possible market since only 12 per cent of the traditional 17-24 year old demographic even think of military service. Research presented in the Defence Personnel Environment Scan 2020 (2001, p. 109) suggest, “the proportion of people aged 24 years and under will continue to decline”. Sloper (1994, p. 9) reduces the targeted demographics numbers even further, by arguing there is an increasing measurable trend in the numbers of student’s within this demographic who “are studying what politely might be termed “softer option” subjects and, therefore, are unable to meet academic entrance criteria”. A Department of Defence inquiry into higher education (2001b, p. 5) suggests there is still a shortage in the number of engineering and information technology graduates entering the market place. Zimmer and McKern (2000) also identify technical programs such as, engineering, to be low in student numbers. However it is still generally recognised through research published within the Defence Personnel Environment Scan 2020 (2001) that Australians are becoming better educated. Sloper’s argument is still significant (Zimmer and McKern 2000, and Department of Defence 2001b) with the need for Navy personnel to possess at a basic level some understanding (officers a graduate-level understanding) of science, technology, management, systems engineering and integration to effectively operate as a military specialist. This understanding is required given the increasing reliance on asymmetrical warfare, network-centric operations (Kruzins and Scholz 2001) and the emerging high technology utilised by state-of-the-art weapons systems and platforms (Department of Defence, 2001a).

The relative economic health of the nation is another change agent, which is generally considered to strongly influence the Navy’s ability to attract and retain its human resources. This link exists because of the relationship between the domestic and international labour markets with the nation’s economy (and increasingly global economy). Sloper (1994, p. 13), Schmidtchen (2000), Jones, Murray and McGavin (2000, p. 15) and the Defence Personnel Environment Scan 2020 (2001) in their respective articles and papers all maintain attracting and retaining high quality personnel will only become harder with domestic and international organisations able to offer more flexible reward packages and lifestyles that do not include the associated difficulties with Service life. Williams II (2000)
TRANSFORMING THE OFFICER INITIAL TRAINING FACULTY, RANC

believes the same of the US Navy, stating the “US Navy’s current crisis in junior officer retention is being addressed through short-term fixes. Leaders point to a strong economy and high operational tempo as the root of the problem and have offered mainly economic solutions”.

The regional unstable geo-political equilibrium is shifting (Robinson 2001, p. 37) and national defence objectives are expanding to accommodate the recent external events. It is expected these external changes and national policy responses will continue to influence the role and tasking of the Navy and hence its personnel management. For example, the last 10 years has seen the Navy maintain a very high operational tempo that has been exacerbated by manpower shortages. Defence expenditure and force re-structuring will continue to drive change as a result of commercialisation and the contracting out of support functions. All of which has resulted in unacceptably high separation rates.

The application of advanced technology and the emerging higher-level technology (without considering the potential technology currently under development) will have a significant impact on personnel numbers, structure and skill set requirements. Australia’s Navy for the 21st Century (Department of Defence 2001a, p. 11) predicts, “ADF operations increasingly relying on “network centric warfare” where sensors and “command and control” equipments are networked with the weapons systems of a force”. This concept of warfare proposed by the Navy in the report, Australia’s Navy for the 21st Century (Department of Defence, 2001a), Goodyer (2000) and Kruzins and Scholz (2001) involves the Navy utilising advances in; information technology (intelligence and counter-intelligence systems; surveillance and reconnaissance systems; and command, control, communications and computing systems), high-tech weaponry, satellites, warship technology (stealth ship and automaton technology), submarine technology and uninhabited vehicle technology (underwater and aerial). The Defence Personnel Environment Scan 2020 (2001) acknowledges the ability of the Navy to keep abreast of advancements in technology will impact significantly on the potential high quality personnel identifying the Navy as an employer of choice.

The change agents described in the brief comparison of today’s Australian society (and likely trends) with that of the Defence personnel environment, present distinct challenges to existing Navy personnel policies and practices (Nunn, Cupper & Kennedy, 2001), particularly since the White Paper, Defence 2000 – Our Future Defence Force (2000a, p. 61) identifies, “the strength of Australia’s military forces has always been the quality of its people”. Hence the obvious trend in the tangible performance indicators such as, poor recruitment, unacceptably high separation rates and the weakening experience base in Navy personnel, suggests current Navy policies are not aligned with the knowledge-based, global civilian community and are therefore unable to deliver the flexibility required to recruit, manage and retain sought after personnel presently or in the future. This conclusion is supported by the Defence Personnel Environment Scan 2020 (2001), which identifies two critical factors, “defence will need to make changes in line with identified societal, workplace, lifestyle, globalisation and technological trends if it aspires to become an employer of choice” and significantly, “on the basis of the current environment, or without changes to personnel policy and practice, it is unlikely that the ADF will meet the strength required by the White Paper, Defence 2000”.

As a consequence of the “Revolution in Military Affairs” and the interwoven “Revolution in Business Affairs”, a new innovative approach to naval officer training in the increasingly busy and resource-
constrained Navy organisation is required, if the Navy of tomorrow is to achieve desired military outcomes.

Emerging Change Agents – Trends in Education and Training (Revolution in Educational Affairs)

Over the last 25 years there has been a global trend demonstrated both domestically and internationally within the public and private sectors, to push for a “smarter workforce”. Rhinesmith (1995, p. 36) identifies some of the inter-related reasons for this trend, “the challenges of constant change, globalisation, transformed workplaces and new standards of performance and competitiveness”. Essentially, economic rationalisation is seeing organisational budgets becoming increasingly tighter with organisations needing to increase effectiveness, quality and responsiveness while decreasing costs. The Australian National Training Authority (ANTA) (1999) reports in the last 15 years, the nature of the Australian economy has changed from reliance on primary resources and manufacturing to more dependence on service and knowledge-based industries. These changes have been reflected in the need for the Australian labour force to be not only a “smarter workforce”, but also an increasingly mobile workforce. Both NBET (1996) and ANTA (1999, p. 9-10) identify the driving forces for these changes to include globalisation, information and communication technologies, market reform (the need for greater quality and flexibility) and restructuring of the labour market.

Australia is facing increasing pressure to be responsive and competitive in the global marketplace (Woolley, 1999). The factors that determine the demand for education and training services have resulted in a global restructuring of the industry, especially with the advent and adoption of new technologies within a knowledge-centred culture. Consequently, competition within the deregulated industry is the thrust behind diversification and differentiation of education and training packages. In addition, widespread market reforms are occurring due to new alternatives for program delivery. These alternative delivery methods have arisen from the rapid increase in the availability and utilisation of new technologies. The recent market reforms are the initial steps to achieving a market that is both client responsive, and that takes account of longer-term social and economic trends. Hence within the higher education sector there is increasingly less parity between programs promoted by learning institutions.

Within the ADF and in particular the Army learning environment, implementation of computer-assisted learning has been actively adopted. All three Services have adopted war-gaming and simulation training which Bennett (2001) believes, “will lead to the higher standards we need to achieve”. The US Air Force has focused on distance learning programs through a dedicated Air Force distance learning office (Pesola, 2000), as have the Swedish Armed Forces in their defence system (Kroon & Lind, 1995). The US Army, in response to similar recruitment and retention related challenges to those faced by the Navy (and ADF), have recently developed in cooperation with PricewaterhouseCoopers, an Army University Online Program which incorporates 29 higher education institutions allowing American soldiers to earn post-secondary degrees or technical certifications online anytime, anywhere, anyplace, while they serve (Burls, 2001; Carr, 2000; and Roach, 2001). Recent developments in telecommunications and the widespread adoption of the Internet have increased awareness within the corporate learning and training field to the potential of e-learning systems in providing rapid and cost-effective means for appropriate training implementation (Brockbank, 2001; Palmer, 2001; and The Personnel Magazine, 2001, p. 16). Palmer (2001) believes, “the ‘global’ village created by
the Internet means universities can offer flexible study programs based on the Internet (and World Wide Web) to students anywhere in the world, 24 hours a day.

The concepts of lifelong learning, flexible learning and flexible delivery are assuming immense importance in the policies and practices of many international agencies, governments and institutions of learning, including the Navy. The White Paper (Department of Defence, 2000a, p. 68) clearly states the ADF’s current and future position on the matter of education and training, “[education and training] is a critical investment in future capability”. The Navy (and ADF) is generally recognised as devoting a significant portion of outlays to investment in human capital formation, which may be simply defined as the skills formation of service personnel (Alexander and McGavin, 1989).

Part 2: Analysis of traditional values that underpin management philosophy within current educational environments.

The Royal Australian Naval College (RANC) has been in existence for almost ninety years, it was founded at Jervis Bay in 1913 soon after the formation of Australia’s own Navy. The College is currently located at HMAS Creswell on Jervis Bay. In many of the training rooms around the College, large Navy brand advertisements espousing Navy values, such as Honour, Integrity, Honesty, Courage and Loyalty can be found to inspire the Junior Officer’s Under Training (JOUT’s). In fact some of these values are enshrined in the crest of HMAS Creswell and the RANC. The RANC Handbook (2001) claims it is “these values that have held the Navy on a successful course for the last 85 years, and are the values that guide how we at the Royal Australian Naval College prepare Naval officers today in 2001.”

Officers will complete their officers’ initial entry course at the RANC. This course is the first in a training continuum consisting of four residential courses designed to promote officer career development. “The aim of all initial entry courses is to provide individuals with the knowledge, skills and attitudes necessary to render effective service as a junior officer in the RAN” (The RANC Handbook 2001, p. 6).

There are a number of entry paths for an individual into the officer corps of the Navy. These paths are based upon the level of education and relevant experience held by the individual. To support this policy there are a number of different initial entry courses that cater for these different circumstances, including the: New Entry Officers’ Course (NEOC),\(^1\) Qualified Entry Officers’ Course (QEOC),\(^2\) Senior Sailors’ Entry Officers’ Course (SSEOC), Undergraduate Entry Officers’ Course (UEOC), Royal Melbourne Institute of Technology Entry Officers’ Course (RMITEOC), Warrant Officers’ Entry Course (WOEC) and Reserve Entry Officers’ Course (REOC) (The RANC Handbook 2001, p. 6-7).

It is important that the unique nature of the defence product and the profession of arms be considered. Jones, Murray & McGavin (2000) identified four unique characteristics of the defence product which differentiates the profession of arms from wider labour markets: “defence is specifically concerned with the exercise and application of violence; products of the ADF are multi-faceted and comprise many components and sub-components that can be used for different purposes; products of the ADF are contingent because the Government does not know when they will be required but must maintain some minimum capability; and ADF staff in the profession of arms face unparalleled risks and obligations in the call of duty”.

With consideration of the distinctions separating defence products from those of many civilian products, it is difficult to apply current management concepts. One recurring challenge in the management of the OITF is how to classify and define the concept of naval officer. Essentially the courses are focused on
the development of intellectual skills and personal qualities relevant to the mastery of common requirements identified as essential to that of a naval officer. However there are currently 14 primary qualification (PQ) areas for naval officer employment, each with a different job description (e.g., in some PQ’s the officers are rarely posted to ships, while in others they are rarely ashore). Many PQ’s provide opportunities for officers to further concentrate in specialised sub-qualifications (for example, Clearance Diving Officer sub-PQ within the Seaman Officer PQ). Yet still, there are functional qualifications that exist in addition to the PQ’s and sub-PQ’s. These functional qualifications include fields of study such as; management, human resource management, administration, aspects of military law, IT, defence acquisitions and project management. Without considering the many embedded requirements of a naval officer, such as Divisional Officer (responsible for the management of a division of sailors), it is clear why providing a definition of “naval officer” is challenging for the OITF.

The lack of clear definition makes for difficulties in the application of the “value-adding” concept. The training has an input market value (cost of resources) but no clear output market value since there is no market price for the product (Zimmer and McKern 2000, p. 51). It is given that the equivalent civilian training could be factored as the output market price in some cases (benchmarking against the civilian sector is not always practicable due to the unique Defence product) but how can an individual estimate the worth of the future naval leaders who are being shaped by the OITF? The OITF graduates represent the human resources from which the Navy’s human capital is formed. These naval officers provide greater value in the future than on passing out day. Harris et al. (2000, p. 9) propose, “one recourse is to deliver ‘more for the same’ or ‘more for less’ – on the reasoning that if the same product is delivered for the same input, then value-adding is achieved, and, with emphasis, if more product is delivered for less input, value-adding is achieved”. Current OITF practices suggest there is the danger of a “more for the same” push with the sole objective to increase naval officer numbers. The problems with this reasoning as indicated by Harris et al. (2000, p. 9) is that it assumes there will be no deterioration in product quality nor will there be deterioration in product value, if the product becomes obsolete or less useful. To recent graduates from the NEOC it is possible to assume that OITF believes there are little, if any deviations in product quality or usefulness and that there is little need to critically review the initial entry officer training, addressing the current or emerging trends highlighted in Part I.

Notably, anecdotal evidence suggests that some of the practices and policy of the DFRO have been re-aligned to accommodate the changes resulting from the current and emerging environment trends indicative of the Revolutions in Military and Business Affairs (e.g. qualified personnel entering with lieutenant’s rank and higher pay seniority), however OITF practices do not appear to mesh with this re-alignment. There are some high quality professional personnel recruited by the DFRO for specialist PQ employment within the Navy, who are then exposed to the “more for the same” management philosophy exhibited by the OITF. This philosophy is hindering the transition to a learning organisation (Baisden, 2001; and Senge, 1990) environment that precludes the transformation to a high performance employer of choice as espoused by naval leadership.

Part 3: Identification of appropriate management values and principles appropriate for emerging educational environments.

To operate its increasingly complex and sophisticated weapon systems, the Navy needs officers with a high level of technical expertise. Kabakovich (2001) in a review of Russian
military training best summaries the situation facing the Australian Navy, "modern weapon systems have reached a level in their evolution enabling personnel of warring sides to operate in a stand-off mode, without coming into direct physical contact. Therefore, a person engaged in warfare turns from a soldier in the traditional meaning of the word into a military specialist operating a complex weapon system or supporting its operation. At the same time the social role of a person defending his motherland remains immutable; what changes is only the content and character of military activity which is becoming increasingly intellectual. There is good reason to say that today we are seeing the emergence of a new stage in the military-technical revolution, based on high technology. All of this requires new approaches to the organisation of the military education and training system."

Technology will (with the exception of the "Terminator" wars) never eliminate human nature from warfare. The deciding factor in the critical moment will always be reduced to the quality of leadership and the resilience of the organisation. “Well-educated and skilled people are essential to the success of the ADF" (Department of Defence 2001). Hence to achieve excellence under the guidance of the Navy’s vision, the Navy will need to combine efficiency not just with material and physical resources but also human resources. As professional naval officers, issues of culture and climate along with technology need to be considered as part of a systems approach. Technology leads to efficiency, but effectiveness can only be attained through a healthy culture and therefore climate. Developing leadership and instilling the Navy values (Honour, Integrity, Courage, Honesty and Loyalty) within the Navy’s future officer corps should be of paramount importance since it will be the key to effective organisational climate.

If the Navy is to be fundamentally effective, then the organisation needs to combine desired performance results with healthy, shared values. The human force of leadership synergises these results and values to form the organisational climate. The desired culture must then be inculcated throughout the Navy (the entire Navy must align with the culture for it to be effective) and the desired climate throughout Navy organisations via the leaders.

The Navy’s ability to attract and retain the next generation of naval officers will require changes to recruiting systems and importantly initial officer entry training systems as well. The Department of Defence (2001b, p. 2) acknowledges that ADF education and training must evolve to meet the challenges outlined in Part I of this analysis. It is no good attracting high quality personnel to the Navy, if they are poorly managed when they arrive. The highly sought after human resources will separate from the Navy, after accepting a more satisfying offer from an organisation more willing to make changes to recruit and retain high quality personnel. Therefore organisations wanting to remain competitive in an era of continuous labour shortage, and to recruit and retain the cream of the workforce, must recognise and be responsive to the demands of the new environment (Defence Personnel Environment Scan 2020, 2001 p. 113). As suggested by Schmidtchen (2000, p. 22) in an article discussing strategic HR challenges and opportunities for the Army, “if the Army fails to adapt to the emerging world-view of its people, the cost will be high-turnover and lower productivity and creativity”.

The Department of Defence (2001b, p. 3) recognises if the ADF is to maintain its competitive edge against potential adversaries it will need, “creative people who can readily adapt and innovate to confront new threats and challenges, and are a valuable capability underpinning a successful response”. However 21st century companies are increasingly relying on the identical notion of “competitive
edge strategies” hence the Navy will be progressively forced to compete fiercely for its human capital. Lescreve (2001) from the Belgian Armed Forces supports this conclusion suggesting, “the struggle for attracting and hiring people is fierce. Lots of money is devoted to advertising, head hunting and many incentives to attract and retain people”.

Additionally as the complexity of military work increases, so will the need to specialise (career streaming). Currently in the Navy there are specialist areas of employment for civilian qualified doctors, teachers, lawyers, nurses, dentists and chaplains. The ADF Posting Turbulence Review Team in their Final Report Part Two – Supplementary Papers (2001) indicates that key drivers for increased specialisation, such as the changing nature of work and technology will apply to military organisations and become even more pronounced as new intellectual and capital capabilities continue to be introduced. To develop and maintain these specialist capabilities in support of its operational tasks, functional military experts are required by the Navy.

The implications of career streaming are that the Navy will be fiercely competing to attract and then retain specialists. Part I of this analysis has already identified that the Navy (and ADF) are currently facing increasing challenges in these areas with no respite. Considering these high quality personnel are not functional generalist officers but rather experienced specialist professionals (many with postgraduate qualifications) who understand their own professional function, their organisation and their external environment intimately, the forecast for the Navy is not favourable. Anecdotal evidence from a number of experienced specialist professionals who were attracted and recently recruited into their equivalent Navy PQ specialism generally supports the unfavourable forecast after they experienced disillusionment with the quality and standard of both the NEOC program and the JOUT’s. Many of these specialists were also disaffected by Navy rhetoric regarding the different officer initial entry courses offered (or not offered as the case with QEOC) by the RANC that are designed to cater specifically for their different circumstances.

Part 4: Description of how the impacts of the proposed management vision will contribute to organisational effectiveness and sustainability.

The Navy stakeholders should reconsider entry requirements to the officer corps of the Navy. The Revolutions in Business and in particular, Military Affairs necessitate Navy (and ADF) officers of the 21st century to possess a much stronger education. Hence if the Navy is to sustain itself in the future, the need for transformation in the OITF is significant. The current OITF climate demonstrates a breakdown in the Navy’s response to its unique environment and does not effectively address the challenges in attracting, recruiting and retaining high quality personnel to the Navy, especially the experienced professionals entering their specialist PQ. Nor does it effectively prepare Naval officers to lead the Navy through the challenges it will face in the 21st century regardless of the rhetoric published within the RANC Handbook (The RANC Handbook, 2001).

Transformation of the OITF will see the faculty recognised as among the world’s best and benchmarked for its excellence and innovation in the development and delivery of training and leader development packages to junior Naval officers. The officer initial entry courses will reflect the high quality of naval officers choosing to enter the officer corps and the faculty. The courses will clearly demonstrate the Navy’s ability to be agile and flexible in responding to change, and the Navy’s ability to provide an education that integrates teaching and research. The OITF will support and reward excellence in all aspects of scholarship.
The curricula of the OITF will need to be transformed by experienced military training professionals with little duress from hierarchical decision-makers outside the training profession. The transformed curricula will prepare the Navy for a new operating environment in the most dynamic region in the world, where forces are required to be hard hitting, agile and adaptable. Therefore naval officers must be self-aware, adaptive and committed to lifelong learning. Adapting the OITF requires a new approach that focuses on a central task and purpose, synchronising the educational and operational experiences of officers and trains to established common standards.

The officer initial training courses managed by the OITF will clearly communicate the Navy leadership’s intent in a manner both coherent and cohesive for junior officers. The paradigm upon which officer initial training courses will be developed is based upon concepts drawn from systems theory, learning organisation theory and lifelong learning theory in consideration of the Revolutions in Military and Business Affairs. Steele and Walters Jr. (2001) recommends a similar reform model for the training and developing of US Army leaders. The foundation block of studies will be comprised of focused learning on Navy culture, beliefs and practices upon which subsequent learning builds. Central to the paradigm are pillars of learning focusing on values, ethos, service ethic and commitment to lifelong learning. Progressive blocks of learning embedding standards and feedback build upon the foundation and represent the inclusion of operational and educational experiences needed for leader development. The result will be OITF graduating naval officers who are self-aware and adaptable leaders for 21st century warfare, as opposed to the current OITF product.

To face the challenges outlined in Part I of this analysis, the Navy and particularly the OITF, must be a learning organisation (Baisden, 2001; and Senge, 1990) if it is to sustain itself in the future. As a learning organisation, the OITF will be continually expanding the capacity of the Navy (which itself will adopt the learning organisation paradigm) to improve its position in its unique environment by creating, transferring and reflecting new knowledge, experience and insight. A key performance indicator for the successful adoption of the learning organisation paradigm will be an increase in the quality of Navy human capital. There will be increasing numbers of high quality personnel (inclusive of specialist professionals) making the Navy their employer of choice and ultimately a high-performance organisation. This will be achieved through enhanced sensitivity by naval leadership to the Navy’s dynamic environment, reflected in the implementation of innovative systems approaches to attracting, recruiting and retaining high quality personnel. For example, changes in the strategy of Navy (now operating as a learning organisation) recruitment systems pre-empting the emergence of new environmental trends within a dynamic climate, will need to be reflected in training systems. This will assist in sustaining the Navy’s position as a high performance organisation enabled by high quality personnel considering it their employer of choice.

Current Navy leaders must commit to the complex notion of lifelong learning. Steele and Walters Jr. (2001) believe in a military environment lifelong learning can be committed to through a balance of operational and educational experiences, complemented by self-development to fill knowledge gaps. The OITF will communicate the importance of lifelong learning to future naval leaders who will during their training be introduced to the benefits and importance of self-awareness and adaptability. Hence as 21st century naval officers they will be leaders who can assess abilities, determine strengths and weaknesses
in a dynamic operating environment, learn how to sustain strengths and correct the weaknesses, recognise changes in environment and learn the process to determine what needs to be learnt to be effective (Steele and Walters Jr., 2001). In other words, naval officers graduating from the OITF will be lifelong learners with high professional skills able to be developed across multiple disciplines as demanded in the Navy’s long-range strategic report, *Australia’s Navy for the 21st Century* (Department of Defence, 2001a, p. 15).

This vision will require the OITF to utilise modern technology, flexible learning practices and innovative human capital forming approaches to assist in the creation of its learning climate. The OITF will need to nurture and sustain efforts in multimedia technology, educational technology, flexible delivery and its own human capital formation. Through the use of flexible delivery within the unique learning climate maintained by the OITF, naval officers will develop the skills to learn within flexible learning environments, sustaining them as lifelong learners in the fleet.

**The Strategic Framework**

In the future the Navy will be striving towards its vision of establishing itself as “a [A] Navy with a worldwide reputation for excellence as a sea power; a well equipped, professional team of highly motivated quality people, serving Australia with honour, supported by a nation proud of its Navy” (Department of Defence, 2000b).

The OITF vision will guide the systems within the OITF (as a learning organisation) of the Navy to create an innovative and unique learning climate. The naval officers graduating from the OITF will be empowered as lifelong learners supported by a strong and healthy Navy culture appreciation, to lead the Navy (as a learning organisation) in pre-empting the 21st century environment, which has been impacted upon with no respite by the Revolutions in Business and Military Affairs.

The implications of the current Navy transforming into a learning organisation are significant. First the Navy will become an employer of choice for high quality personnel, increasing the quality of human resources attracted, recruited and retained to form the Navy’s human capital. This will sustain the Navy in a dynamic environment full of challenges arising from the Revolutions in Military and Business Affairs. This in itself has meaning, as now the Navy will be considered both a high performance organisation and learning organisation. The OITF will play a crucial part in the continued shaping of future naval officers into leaders who are capable of leading the high performance Navy as a learning organisation towards the 22nd century anticipating environment trends before they emerge.

The Navy will have achieved recognition as a high performance learning organisation because it will have directly enabled “Navy Goal One – Navy People” as outlined by the Navy Performance Management Framework in the CN’s *Commitment to Future Directions 2000* (Department of Defence 2000b). The “Navy People” goal requires success in three key result areas: learning organisation; staff the Navy; and well-trained, healthy and motivated workforce. These three key result areas incorporate the following performance indicators: an increase in the quality of Navy human capital, a stronger Navy culture, recruitment and training effectiveness, separation rates, billet and skill shortfalls, and health of the workforce.

**Conclusion**

The “Revolutions in Military and Business Affairs” and the interwoven “Revolution in Educational Affairs”, requires new approaches to the organisation of the Navy’s education and training system if the Navy of tomorrow is to achieve desired military outcomes. This
transformation process will require the OITF (and the Navy) to challenge everything from doctrine and teaching practices to the allocation of resources. Acting on these recommendations will require extensive work since visions alone do not transform organisations.

Links

The management vision for the OITF is consistent with guidance provided by Government through the Defence 2000 White Paper (Department of Defence, 2000a). It is linked to the Navy’s classified long-range strategic plan, Plan Blue, the unclassified version of which is the report, Australia’s Navy in the 21st Century, (2001). The vision is strongly linked to the Navy Performance Management Framework as outlined in the Chief of the Navy’s Commitment to Future Directions (Department of Defence, 2000b) and the Defence Personnel Environment Scan 2020 (2001). The vision is also linked to the Navy’s classified medium ten-year strategic direction, Plan Green and the associated Navy Human Resources Management Plan. Importantly the management vision for the OITF aligns with the organisational vision of the Navy (Department of Defence, 2000b).

NOTES

1. New Entry Officers’ Course
“The New Entry Officers’ Course (NEOC) is designed for new entry officers from civilian, and junior sailors backgrounds which lasts 20 weeks. The experience levels vary greatly; civilian candidates may be straight from school, university, civilian employment; married or single, and up to 45 years of age. Junior sailors may also be mature age and experienced in life and in their Service careers”. (The RANC Handbook, 2001, p. 6)

2. Qualified Entry Officers’ Course
“The 10 week, Qualified Entry Officers’ Course (QEOC) is designed for new entry officers from a variety of professional backgrounds. These include graduates, nurses, medical doctors, dentists and chaplains. Individual backgrounds and experience levels may vary significantly, with some of these trainees having considerable professional experience, others having some basic RAN experience from the University Entry program, while others may have no professional or Service experience. (The RANC Handbook, 2001, p. 6)

BIBLIOGRAPHY


Purkiss, M.B.C. 1988, Sub-committee inquiry submission: personnel retention in the Australian Defence Force, [no publisher details], Australia.


Lieutenant Jason Kirwin, RAN, graduated the Royal Australian Naval College in December of 2001. Upon completion of the Navy Training System Application Course in March 2002, he posted to HMAS Watson, Sydney as Training Consultant with Training Support Services. He holds a Bachelor of Applied Science (Chemistry), Graduate Diploma of Education and Master of Education (Further Education and Training). He recently completed a second Master of Education focusing on Flexible Learning, Training and Development. In July of this year he will be commencing further postgraduate studies in Management and HRD with the University of Sydney. He is a member of the Australian Institute of Training and Development, a board registered teacher with the QLD Board of Teacher Registration and was selected as a Review Panellist for the QLD Board of Senior Secondary School Studies. He has five years experience teaching Senior Chemistry, Physics and Mathematics throughout Eastern QLD and the Middle East.
With the more recent rise of China as a world power, there has been a renewed interest in Australia in understanding this nation in an effort to learn what drives the Chinese psyche. Chinese culture, language, history and development are now studied in many Australian schools. Business magazines are full of articles on Chinese economic growth and their long-term strategies for superpower status. Those of us in uniform consider Chinese military expansion and their on-going posturing over the reunification of Taiwan and their growing influence in the South-China Sea. No one can deny China is important – as a major regional player, as a trading partner and as a global nuclear power. China still boasts the largest population of any country on the planet and Mandarin is one of the world’s most common languages. Why then does China remain an enigma to so many Westerners? Why is China so?

This book, produced in the Cambridge Press illustrated history tradition, attempts to answer those and other questions by considering Chinese history and cultural development and by placing their development in a Western context. We relate to their beautifully carved artefacts of pre-history, to Chinese art, calligraphy and exquisite ceramic pottery and figurines. By examining this side of Chinese society, this book takes the reader across the cultural divide. It is an interesting read, well researched and liberally illustrated with many colour and black and white photographs throughout its 336 pages of text.

Patricia Buckley Ebrey, the author, is a world-class Chinese scholar and historian, and has set about in her words “to write the history of Chinese civilization, a civilization never confined within well-demarcated borders, but loosely associated with China proper”. She has focused on the people and the culture they have created, which has now spread around the globe. This diaspora saw the Chinese move first into South-East Asia, then out into the world. Attesting to the spread, many cities now sport a Chinatown and Chinese New Year has become a major festival on every continent.

A military history, this volume is not. Nor does it purport to be. From a military perspective, however, there is coverage of the rise of the Mongols and later, on the inevitable clash with the Western Powers in the 19th century leading to the Opium Wars, the Boxer Rebellion and China’s suffering under Western domination. China was also to suffer terribly under a rising Japan, which modernised when China did not and who turned on her neighbour in 1930. China lost an estimated 20 million (mostly civilians) during the Second World War. This humiliation for “all under heaven”, the Chinese never forgot.

The book concludes with the rise of Mao and how the idealism under his Cultural Revolution rapidly gave way to an economic revolution. While Chinese communism may be for all intents and purposes dead, and while capitalism is now accepted, democracy is yet to blossom. Whether China succeeds in its mission for economic superpower status under its current political hiatus, only time will tell.

The book contains a concise chronology, notes and index, missing is a convenient table of the Chinese dynastic succession which would help the reader follow the time lines. However, while the volume is really a cultural history of Chinese civilisation, it is recommended nonetheless.

Reviews

Books

THE CAMBRIDGE ILLUSTRATED HISTORY OF CHINA by Patricia Buckley Ebrey, Cambridge University Press, RRP $59.95 paperback.

Reviewed by Group Captain Mark Lax

With the more recent rise of China as a world power, there has been a renewed interest in Australia in understanding this nation in an effort to learn what drives the Chinese psyche. Chinese culture, language, history and development are now studied in many Australian schools. Business magazines are full of articles on Chinese economic growth and their long-term strategies for superpower status. Those of us in uniform consider Chinese military expansion and their on-going posturing over the reunification of Taiwan and their growing influence in the South-China Sea. No one can deny China is important – as a major regional player, as a trading partner and as a global nuclear power. China still boasts the largest population of any country on the planet and Mandarin is one of the world’s most common languages. Why then does China remain an enigma to so many Westerners? Why is China so?

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Reviewed by Bruce Davey

"In Australia, fact and myth about Gallipoli are interwoven so well that sometimes one cannot tell where one ends and the other starts . . . Gallipoli is part of the folklore, bigger than the facts."

These observations are drawn from the acknowledgements of Les Carlyon’s *Gallipoli*, a book that describes one of the most central military events in Australia’s history. In recounting this event to a modern readership, the author combines his many years of acclaimed experience in journalism with an array of impressive historical research. The book addresses the topic for a readership that includes increasing numbers that may not have a natural connection by birth to Australia’s British forebears, or who question why the Gallipoli disaster should retain its hallowed place in the evolving Australian national identity.

The reader is quickly transported to the realities of the Dardanelles of today with its colours, sights and smells. Before escorting us back across time, the author expertly conveys a wonderful sense of being there. He makes you see and feel the Bosphorous so well that the reader is dazzled by the shimmering sea reflecting light onto Gallipoli - the dark icon of Australia’s past. You are there wandering the valleys through his eyes now, but this is a trap. He is about to escort you into a mausoleum.

Describing events in Europe before the outbreak of WWI, the author turns to the Australian strategic outlook. He writes of the Australian concerns of the time:

“The belief in the British empire was deep and just about universal. The assumption was that Britons, if not the master race, were definitely the superior race. And Australians saw themselves as Britons.”

“. . .(A)s an election issue, the war didn’t rank ; as an intellectual issue, it hardly seemed worth talking about. The people and the politicians were one.”

This was a time when there was no controversy over the Governor-General’s use of reserve powers, the Governor-General was openly recruiting troops to fight against the Hun, setting an agenda to which Commonwealth Ministers dutifully adhered. In the author’s telling, the failure of the Australian people to vote for conscription engendered the Governor-General’s chagrin, but this seems to have been the only example of any Australian reaction against the direction set by what was loosely but reverently termed in Australia, “the Imperial Government”. Britain’s War Council functioned on a level at odds with the blurry Australian notion of what “imperial government” actually meant. Yet as the author points out:

“If Australia’s attitude to the war had been decided by pragmatism rather than filial ties, the result would have been the same. Australia could not defend itself and its sea lanes. Britain provided the insurance policy; Australia paid the premium by sending troops to Britain’s wars”.

The global situation in 1914 is outlined and the author’s narrative is driven by the interaction between historical characters of legendary stature and vividly pictured events and scenes. Vitality is breathed into the mental images we have of the dramatis personae, such as Kitchener, Churchill, Fisher and Hamilton; Birdwood, Godley, Monash, and Walker amongst others.

The author introduces the Gallipoli expedition as a plan devised by Winston Churchill to circumvent the stalemate on the Western Front by a landing at the Dardanelles. There follows a tremendous description of the Turkish revolution, the Ottoman Empire, Constantinople and Kemal. The author shows
how Russia and Turkey become belligerents, drawn into war through naval provocation in the Black Sea. He describes the ensuing German–Turkish military relations and the role of Von Sanders in assisting Turkey’s defence.

Reporting Britain’s War Council meetings of 1914 and 1915, the author shows the contending plans of the powerbrokers. In covering the contributions of a wide range of supporters and detractors such as Wemyss, De-Robeck, Maxwell in Egypt, and Roger Keyes we see the implementation of a troubled plan gathering a lumbering momentum almost by default. It is a campaign beset with conflicting expectations of the efforts to be made by the Army and the Navy. The forces cobbled together from different nations, the intent telegraphed to the Turks by the naval operation of March 18 and by preparations conducted throughout the Mediterranean.

By evening on the 25th of April, 15,000 men were ashore on the beaches having sustained casualties numbering possibly upwards of 2,000. As the author writes, “…(t)he ANZACS were not going forward; they were clinging to 400 acres of useless beachfront, as though staying there was a point of honour, which it was.” Nevertheless the landing and subsequent “advances” were overstated in the Australian press.

The other landings on the Gallipoli peninsular at Helles and Suvla, caused heavy casualties to the British and French forces, worse bloodshed than at Anzac. The author reports that in the area where no opposition was met, orders were received to hold positions and entrench. The chance for progress was now permanently gone given the effectiveness of the Turkish howitzers and the incredible natural defensive strength of the terrain. The author describes the British shortages of ammunition; field artillery pieces in all divisions; high explosive shells and mortars – Gallipoli had been reduced to a siege where the attackers did not possess the numbers or materiel required to dislodge the defenders from impregnable defensive positions.

Gallipoli was well covered from all angles by a number of celebrity pens and participants. The author colours the story with mention of people like Sub-Lieutenant Rupert Brooke and other characters such as Freyberg and Arthur Asquith, the then British PM’s son and so many others. The narration of events is usually supplied via eye-witness accounts. The author draws on Hamilton’s diary, Bean’s official history, Aspinall, Age war correspondent Philip Schuler, Compton Mackenzie, Churchill and Ashmead-Bartlett the Fleet Street correspondent. This highly influential reporter is one amongst many referred to in Gallipoli. Ashmead-Bartlett, like Bean are not only authors of important histories on the topic but characters in the story.

This book provides a good look at Australian humour. The laconic delivery of the author ranges from samples of soldiers humour or sometimes through the eyes of his characters. For example, the reporter Ellis Ashmead-Bartlett is engulfed in the blast of an artillery strike from Turkish howitzers: “…(S)till-camera, walking stick, binoculars and water-bottle had been blown up. He was tired of lugging the movie camera about, yet it was untouched. Ashmead – Bartlett felt the Turks had no sense of what to hit.”

Elsewhere the humour becomes more sanguinary. The Turk in the archway, for example, and Compton Mckenzie’s uncomfortable response to a squashed mango. But with the first gales, corpses washed out of their shallow graves and disease soon became another factor in a series already including hardships of weather and terrain, the severely limited medical care and inadequate logistic support all of which endangered and delayed the troops on shore and the operation as a whole. Carlyon evokes the picture well, as in:

“Rotting hands and booted feet poked through the earthworks at Russell’s Top and the hill smelt like a flyblown sheep . . . (t)hat was the prize here. Not Jerusalem or El Dorado, just
a dog-legged trench 50 yards up the hill that
smelt as ripe as the one you were in.”

Ultimately the Gallipoli expedition began to
attract more powerful enemies in Britain. As
the book shows the situation came to such a
pass that Kitchener himself was finally sent out
to Gallipoli to take a look. Lack of any hope of
progress and the disquieting reports of
Ashmead-Bartlett and Murdoch to influential
politicians in Britain finally meant replacement
for Hamilton. Tragically his replacement and
that of some of the other Gallipoli commanders
came only after widespread reaction to
command failure from reporters and politicians.
The ensuing withdrawal from the Gallipoli
peninsular is followed in the book by a, “where
are they now? ” style ending.

Gallipoli shows the best and the worst of
popular history. The author is not so good in
contrasting Gallipoli action, characters and
events to those of other periods. Although
making some broad allusions to the WWII,
Normandy invasion, the author makes no theme
of the two related events. The book reveals
Gallipoli as an operation with more in common
with such fiascos as the Crimean War of the
1850s or the Walcheren expedition against
Napoleonic France than with the Normandy
invasion.

Historical summaries or analogies delivered
in the fashion of a Clive James TV monologue
occasionally result in some gratuitous assertions.
Such as, “ ...Gallipoli did not change the world
as Stalingrad did.” One example worth
examining more closely is the statement,
“(e)very navy needs a Roger Keyes like every
army needs a George Patton. They provide the
Homerick stuff; they make war seem grander
than a trip to the abattoir. All that really
matters is that such people never become
supreme commanders.”

Here the caution is presumably against
further Keyes inspired naval activities against
the impregnable defence of Turkish guns, mines
and forts. But the story the author is about to
detail in brilliant style, shows what happens in
battle when the “supreme commander” (in this
case Kitchener?) is unaware, unprepared and
greatly unmotivated. Even if the statement is
broadened to include the operational
commander (Hamilton), “drive” is still the absent
quality. The respective military records of Keyes
and Patton strongly show that their
contributions were far more concrete than the
author gives them credit for. Observations of
commanders based only on their flamboyance
do play in popular history, but in this case the
statement is superficial and insubstantial. The
assertion that it is important that such people (as
Keyes or Patton) never accede to supreme
command, belongs in a study of a future war.
Its appearance in the Gallipoli context is bizarre.

The term “supreme command” is essentially
an Anglo-American one of the WWII era,
making the statement immaterial in the case of
Keyes and moot at best, in the case of Patton.
Disunity of command was the go in the
Gallipoli campaign. This, poor planning and
preparation; sustaining casualties through
indecision, inaction or ignorance of terrain plus
a misunderstanding of the effects of modern
weaponry - these were the faults of the Gallipoli
commanders as the author’s scholarship and
story-telling reveal.

In this book however, there is far more that
is on the epic scale of the subject matter itself.
The author shows mastery in presenting facts
whilst telling a story with the pace and verve of
a pot-boiler. Evidence of his great powers in
evoking images and in animated description is a
constant in this book but it is the depth of
knowledge on the topic that is paramount. In
summing up:

“The Australians and New Zealanders had
not won, but they had hung on when they had
no right to. They had fought as well as any
“British” troops and in the grottoes of Lone
Pine and on Chunuk Bair they had done things
that were imperishable.”

As the author states,” Australia saw the
Anzac landing as a piece of nation-building.”
Yet Gallipoli might be said to have another
enduring significance in being a definable step in the development of alliance warfare as practiced by the democracies during the 20th century.

Les Carlyon, has walked the battlefield and he navigates the reader through the chaos of terrain and of topography with the tremendous aid of some excellent maps in generous quantity. Gallipoli features much more than just craft in picturing the events and re-animating the characters. There is exceptional skill in describing all the crucial assaults such as the landings; the Nek; Lone Pine; Hill 60; Chunuk Bair; Suvla; Scimitar Hill and the battles of Krithia to name only some. Instituting an orderly control over the flow of multiple unit movements into and out of a scarred battlefield, Les Carlyon’s narrative history exhibits great technique and sustains the reader’s interest throughout.

Only a deep understanding of the subject and the historical record in all its forms, allows him to martial the most important references so skilfully from such a wide corpus of material. The author blends his own arguments and focus with the viewpoints of numerous individuals. He has selected from publications and memoirs; newspaper and journal articles; diaries; letters and references to film. He creates a finely researched book which provides access to the most important published works and brings archival records into light. Gallipoli features original insight and research such as the birth of the “digger myth”, the material relating to the Ashmead-Bartlett versus Murdoch controversy and research of Turkish records.

The most important recent writers on WWI, could be said to include Christopher Pugsley, Peter Burness and Ken Ingliss. Les Carlyon’s Gallipoli, encompasses their specialised foci with a work that establishes a benchmark for relevance to Australians in the new millenium. This is an important and overdue Australian examination of Gallipoli, well crafted for the widest readership. It promises to retain its place for generations. There are heroes and villains. There is heroism and villainy. There is a scorn of triumphalism and honesty in attributing fault to Australian commanders wherever indicated. The campaign’s myths are debunked by the author, sign-posting the correct pathway back to an event etched so solemnly in the Australian national psyche.

The author derides what he refers to as, “…the dessicated footnotes of academics”, and it is true that the book strives for a much broader appeal, which it achieves. In providing the reader with such an informed and assured understanding of the event, Les Carlyon’s book demonstrates awesome scholarship. Gallipoli should be mandatory reading for every Australian starting with students of Years 11 and 12. It also possesses huge scope as an essential general reference to the campaign in more advanced study. The voices of those who lived through Gallipoli dwindle to a murmur but in this book can be found a legitimate echo of those people, their fallen comrades and their times.

CHANGI by John Doyle. Published by ABC Books, Sydney, 2001. 289 pages. $29.95

Reviewed by Allan McKay

Life is full of surprises, and one of them is reading a book about Changi writen by John Doyle who is much better known as his alter ego Rampaging Roy Slaven, whose credits include This Sporting Life, Club Buggery and that salute to the Sydney Olympics, The Dream. This book Changi is no more than the script of the ABC television mini-series of the same name. As you would expect the book is presented in standard script form and contains a liberal dose of photos from the televison series which are spread throughout the book. The author states in the introduction that the Changi that appears within the bounds of his book bears little resemblance to the real Changi. Moreso it is a story of mateship, courage and the will to survive adversity. The book is wrapped around the lives of six young Australian soldiers.
captured in Singapore and interred in Changi. We follow their progress through a blend of tragedy, humour, music and even song and dance. The story bounces between the past and the present, with the reader one moment behind the walls of Changi and before the turning of a page they find themselves in the late 1990 as the six old Changi survivors attend their traditional get-together. Each of the six chapters is devoted primarily to one of the young soldiers in their post-war and later years. The reader has the opportunity to compare the young soldier with the old man. This in itself is an interesting exercise as it gives the reader an opportunity to see what effect the war had on individuals, and what impact it made upon their lives, and those around them. The author states in his introduction that he spoke to, and interviewed many prisoners of the Japanese in the process of writing this book, so it would seem that his characters bear the hallmarks of many of these veterans.

I find that this is really a book for those who enjoyed the mini-series or have a particular affection for television scripts. If you want to know the real Changi you need to read non-fiction books. This book does not claim to be a true account of imprisonment under the Japanese. It is a work of fiction based around fact and in its own way is a rewarding and interesting experience. After seeing the first episode of the mini-series, my advice would be to watch the television show and decide then if you need this book as its companion.


Reviewed by Bruce Davey

In conjunction with the 60th anniversary of the WWII battle for Crete, Cassell Military have re-released Alan Clark’s, The Fall of Crete. Son of the respected historian Sir Kenneth Clark and now deceased, the author is mainly remembered for his political career in British conservative government, especially during the Falklands War. Prior to that, Clark had published military history books, achieving a notable success with Barbarossa, (1965) a landmark English language treatment of the Nazi-Soviet conflict in WWII. His assessment of the battle for Crete was first published in 1962.

The German airborne assault and the British–Commonwealth/Greek defence of Crete was an event that Winston Churchill regarded as unique in military history. Commencing on the morning of May 20, 1941, the Germans massed the forces of two Fliegerkorps - 400 bombers, 200 fighters, 700 transport planes and 80 gliders. The plan was to deliver 13,000 paratroops onto the airfields of Crete. Elements of 5th Mountain Division, upwards of 9,000 men, were poised to reinforce the battle after the paratroops had captured an airfield.

The garrison comprised 28,000 troops the vast majority of whom had been evacuated to Crete after the abortive defence of Greece. Commanded by General Freyberg, the force was poorly equipped and dependent on the effectiveness of the Mediterranean Fleet to maintain sea-lines of communication and to prevent an Axis sea-borne invasion. Crete Force units mainly possessed captured Italian and French artillery. They had only a couple of tanks, a few dozen anti-aircraft guns and no fighter aircraft to contest the German air assault.

Although unknown to Clark at the time of writing, it has subsequently transpired that the British knew that the three airfields at Rethymno, Heraklion and Maleme were the German objectives. Advised of this, General Freyberg defended the airfields.

Over the weeks leading up to May 20, Axis air attacks on Crete escalated until, on that morning, an intense air bombardment heralded the anticipated assault. The defenders exacted a heavy toll in casualties. At the end of the first day, only at Maleme airfield could the Germans
have declared much success. Within days however, this toe-hold was enlarged to such an extent that Freyberg decided to evacuate the island.

Clark’s book addresses the reasons for this outcome. As well as describing the progress of the battle, *The Fall of Crete* provides a clear narrative of the unfolding British Balkan strategy which led to the defence and loss of Greece and Crete. Many books about the battle written after Clark’s, fail to match his concise explanation of the convoluted strategic level decision-making and diplomatic lobbying that prefaces the military activity. On the decision to send an expeditionary force to Greece, Clark states:

*Every eminent person – and they included Churchill and Metaxas, Wavell, and Papagos, the Chief of the Imperial General Staff (CIGS) and the Foreign Secretary – concerned in the decision is recorded as holding within weeks, and even days, wholly opposite views as to its merits.*

Clark writes of the British PM’s cautionary wire to Eden on April 6 where he warns that, “. . .(g)race Imperial issues are raised by committing New Zealand and Australian troops . . .” and the material dealt with by Clark shows that something had altered Churchill’s initial enthusiasm for the expedition. The author’s description of how that expeditionary force was subsequently tumbled out of mainland Greece leads into discussion of the decision to defend Crete.

The decision to try and hold Crete was born amidst divergent viewpoints of senior political leaders and senior commanders as to the resources required to defend the island and the goals to be achieved by that defence. Clark details several reasons for the defence of Crete.

Decisions taken at all levels of command from Creforce headquarters down are highlighted in *The Fall of Crete*. The key ingredient for defeat was failure to appreciate the importance of “Hill 107”, the feature dominating the airstrip at Maleme, which local commanders allowed the Germans to secure. This was compounded, as Clark describes, by the delay in prosecuting a vigorous counter-attack. *The Fall of Crete* reveals an ambiguous chain of command malfunctioning in the critical hours when the paratroops were still vulnerable.

Clark indicates how German airpower quickly re-asserted control, hampering the defenders’ capacity to re-deploy and concentrate against the paratroop lodgments. Despite the courageous conduct of the defence (not least by the Cretans themselves) and the Mediterranean Fleets destruction of a flotilla of small craft attempting to disembark Axis re-inforcements – the weight of German airpower became unendurable. Airpower posed a continuing threat to the effectiveness of the Mediterranean Fleet. It strangled Creforce headquarters command, control and communications, overwhelming the morale of defenders expected to withstand dawn-to-dusk air-strikes for days on end. All of these factors forced Freyberg’s hand. Evacuation was ordered.

Clark’s treatment doesn’t end with the evacuation. Borrowing from the New Zealand Official History, he details some of the escapades of those troops who either went into captivity or who evaded capture for as long as possible on the island. Although it could be argued that these individual tales are irrelevant to the battle for Crete, in Clark’s description we witness, in traumatic detail, the ingrained and institutionalised brutality of Nazism and Italian fascism inflicted on those captured. These experiences stand as tragic results of the defeat in Crete.

Clark’s sources include the official histories of the British and Commonwealth governments. One of this book’s great qualities is its capacity to summarise and transmit the essentials from these encyclopaedic works. The references to the Official Histories of Australia and New Zealand reflect their importance in the historical record of the battle. Clark uses important sources representing a wide range of participants from all sides including the Greeks,
German “eyewitness” material, British unit histories and general sources such as Churchill’s, *Grand Alliance*, Shirer’s *Rise & Fall of the Third Reich* and Wilmott’s, *Struggle For Europe*. The biographical/memoir material from participants such as Eden, Cunningham, Ciano, Student, Von der Heydte and Kippenberger is used to inform the narrative but the reader must keep in mind that all of Clark’s sources pre-date 1960.

Each decade since the battle has seen at least one new volume published bringing the story to successive generations. During the war, the battle for Crete had already received its first assessment in John Hetherington’s, *Airborne Invasion* (1943). The publication of Churchill’s “official history”, *The Second World War* (1949 - 1954) and the release of the official histories of Britain, Australia and New Zealand stimulated interest in the battle. Several books were published in the early 1960s. Alan Clark’s book was released in the same year as John Hall Spencer’s *Battle For Crete* (1962) followed in 1966 by Ian Stewart’s, *The Struggle For Crete*.

Alan Clark’s *The Fall of Crete* remains distinct from the latter two publications. Spencer’s work records in rich detail the experience of the battle from the myriad perspectives of numerous participants providing great breadth but little depth to the analysis. Stewart’s book, although academically robust and the product of six years research, concentrates on victory and defeat on the island, whilst Clark’s work combines the essentials of the tactical action with a keenly reasoned unraveling of the web of strategic and operational circumstances that rendered Crete vital to defend but doomed to defeat. “Policy and Fact in the Eastern Mediterranean”, is one of Clark’s chapter titles and his analysis of the relationship of Crete to the Middle East situation is outstandingly perceptive and cognisant of the impact of these calamitous events from an Australian perspective. The book is characterised by both clarity and brevity despite lacking complete access to official records, a fact acknowledged by the author. The inaccessibility of important records is a weakness in *The Fall of Crete*, and one reason why it cannot be regarded as ‘the last word’ on the battle.

Callum MacDonald’s, *The Lost Battle - Crete 1941* (1993), because of the academic depth, critical references to ULTRA, and wealth of material presented by the author deserves the crown as the foremost single volume work published on the battle. Other modern publications, like Antony Beevor’s, *Crete: the Battle and the Resistance* (1991) takes up Clark’s focus on the post-battle heroics of escape and evasion, whilst Tony Simpson’s, *Operation Mercury* (1981) provides original research in developing the analysis of those strategic level forces acting on Allied policy-makers at that time, issues enunciated well by Clark in *The Fall of Crete*.

This book is a worthy benchmark for analysis of the operation. Every important secondary source published after 1962 has necessarily cited *The Fall of Crete* in its bibliography, confirming a prolonged relevance. Although not as detailed about the tactical action as some later treatments of the battle, historians interested in understanding the strategic decisions leading to Crete and those interested in the critical combat actions of the battle, should be satisfied by Clarke’s narrative. Those who wish to measure by events the elements of prestige created by the actions of the Mediterranean Fleet and its contingent of RAN ships will find the book rewarding. *The Fall of Crete* will also appeal to a new audience unfamiliar with events in the Mediterranean in WWII.


Reviewed by Lex McAulay

This is a reprint of a book originally released in 1972, and is well worth that attention from
the publisher. Robert Jackson has provided a thorough account of the beginnings of the British bombing campaign against Nazi Germany, and this is a necessary “counterweight” in library collections to balance the many books about the later stages of the campaign, when from 1943 RAF Bomber Command brought an increasingly devastating weight of bombs onto targets, and to provide a little balance against the numerous books on fighter operations.

Jackson unhesitatingly recounts the many shortcomings of the British air effort, from high political offices to squadron level. The RAF of the 1930s has been described as the greatest flying club in the world, and Jackson shows that almost the only positive factor of that “club” which brought the RAF bombing force through the first years of war was the courage and determination of its members. The aircraft were obsolete or approaching that category; armament was puny; poor maintenance resulted in equipment failures; planning was often of an abysmal quality; direction at Air Board and Government level was ever-changing; weather was an implacable enemy; German defences were very quick to adapt and formidable.

As the French noted about change, things remain the same. Lack of resolve at high command level and incompetence at political level are described by Jackson in this book, but examples abound of similar situations post-war, right up to 2002, when governments in the Western democracies agreed that terrorism must be fought, but many decline to take part in the military operations. So in 1939–40, after repeated instances of aggression and military invasion of Germany’s neighbours, the British and French governments found themselves at war with Germany, but did not quite know how to bring about a German defeat, and were aghast at the thought of hurting any German person or inflicting damage on anything except a warship.

The French concept of air power was that it was defensive, and so British bombers were not permitted to attack from French bases in case the nasty Germans bombed French towns in reply. This resulted in French military vehicles blocking the runway so RAF bombing aircraft could not take off, and not at the start of the war, but three weeks into the blitzkrieg.

Robert Jackson describes the slaughter of the pre-war RAF bomber force in operations that sometimes were badly planned, and when formations struggled through abominable weather and ferocious defences to place on target bombs which failed to explode, or which were too light to inflict damage. Loss rates on a single operation of 20 per cent were usual, and often exceeded by losses of 60 per cent or 90 per cent.

Accounts of the Battle of Britain usually concentrate on the fighter defence against the Luftwaffe, but Jackson quotes from German reports to show that the RAF bombing effort against the gathering invasion force also was decisive, and by early September, Hitler was repeatedly informed that the quantity of lost and damaged shipping and barges precluded an invasion of England.

Despite efforts to improve performance, the British bombing effort remained amateurish until 1942, after the Butt report of 1941 showed that, contrary to claims by aircrew and senior officers, few crews could even find their assigned target and fewer bombs hit it. Despite repeated statements of accurate bombing of selected important military targets, the RAF first considered area bombing as early as December 1940. It was only after Don Bennett, the Australian, was permitted to form Path Finder Force in 1942, to locate, mark and guide crews to targets did Bomber Command begin to punish the German war effort. German bombing of British and European cities, the benchmarks of 1939–41, and horrific though it was, faded almost to irrelevance alongside the scope of RAF attacks in the last two years of the war.

The book is probably sad reading for those RAF and Commonwealth aircrew who survived,
and for those whose relatives in RAF Bomber Command died between 1939 and 1942.

Value from this book is double-barrelled: one, an account of the evolution of a bomber force from amateur status to the beginnings of ruthless professionalism, and two, the effect on war policy, and its execution, of weak and frightened allies who hope the big bad wolf will die by some miraculous event that will not require actually going into the lair.

ENCYCLOPEDIA OF POLITICAL ANARCHY by Kathlyn Gay and Martin K. Gay, Santa Barbara, California: ABC-CLIO, Inc., 1999

Reviewed by Dr Hank Prunckun

Anarchism is a political theory that dates back to the 18th century writings of William Godwin who, in response to the oppressive rule of King George III and the Church of England, struck a chord with the populace who were weary from the political conditions that held them powerless and in a state of poverty and unhappiness. Simplistically, anarchism espouses that all systems of government and law are harmful and that such systems prevent individuals from reaching their full potential. Anarchist thought is a direct threat to the status quo, which is of course its intent.

Although there were many incidents recorded from the time of Godwin’s first writings, the first large-scale implementation of theory into practice came in 1917 during the Russian Revolution. Since that time the frequency and magnitude of events and the literature on all aspect of anarchist thought has reached avalanche proportions. In recent decades the world has witnessed individuals and groups attempt to disrupt society by calling attention to perceived oppression or bring down the government of the day. Capitalist systems and governments are seen as a conspiratorial collaboration that is trying to “keep them in their place”.

As such, this book is a “must have” addition to the personal library of anyone interested in political philosophy and specifically the organisations, people and events associated with anarchy. Gay and Gay have compiled a truly amazing collection of information that not only has the breath to make the book an often referred to text, but it has the depth of information that makes it authoritative without having to refer to supplementary readings.

This single hard-bound volume of 242 pages arranged in an easy-to-use A-to-Z fashion, Gay and Gay’s Encyclopedia of Political Anarchy covers almost every aspect of anarchy one could care to name: key personalities, significant events, critical concepts and issues, and so much more. It answers question like what were the early catalysts of anarchy, who are the recent players, what are the key concepts and beliefs, what organisations played important roles in promoting anarchy’s ideals, and what is the relationship between communism and anarchy. It is remarkable how much information has been “wedged” into this book—indispensable!

Gay and Gay are well-recognised authorities on the subject, which gives the reader security that the information presented is accurate and well researched. Kathryn Gay has authored more than 70 books on social and environmental issues, communication, and American history. Martin Gay is a computer literacy teacher and freelance writer.

The text appears in a two-column newspaper style layout, making skimming and reading less of an effort. The individual entries appear as bold heading gathered together in groups under their respective alphabetical position. The text is enhanced by the extensive cross-referencing that appears throughout as well as the references to supplementary readings that accompany each entry. Further, there is a detailed table of contents, comprehensive bibliography, thorough subject index, and an appendix on “Internet Anarchism”; all of which
makes Gay and Gay’s *Encyclopedia of Political Anarchy* a valuable reference work for scholars interested in the complex social and philosophical forces that have left an everlasting impact of the world.

**MORSHEAD: Hero of Tobruk and El Alamein,**

*Reviewed by A. Argent*

A friend who commanded a rifle company in the Western Desert and in the SWPA said, “I’ve shaken the hand of Montgomery but I regret I never shook hands with Morshead. He was universally respected and admired by the 9th Division.”

This book tells why he was respected and admired by his soldiers and is an interesting study of a man from humble origins who by hard work, study and application and the guidance of a strong mother, was a successful regimental officer in the Great War, an equally successful divisional and corps commander in the Second World War and who was, between wars and after, an accomplished businessman. He was also lucky. He survived the Landing and Lone Pine (of the 22 officers in his battalion who went into that attack he was the only one not on the subsequent casualty return) and then commanded an infantry battalion for almost two years on the Western Front. In addition, time and chance favoured him, for example, when the original GOC 9th Division became seriously ill Morshead was promoted to fill the vacancy.

Most readers will be familiar with Morshead’s command of the 9th Division (and the invaluable attached British Army units) at Tobruk and at El Alamein but few will be aware of his early days at Ballarat, the sixth of seven children; the death of his miner father six years later; the influence of a strong-willed mother; his career as a school teacher and his rewarding appointment to The Armidale School; why, when a teacher at Melbourne Grammar at the outbreak of the Great War, he enlisted in 2 Battalion in Sydney; how he became the commanding officer of a battalion in Monash’s 3rd Division and led it throughout its existence; his desire to join the Permanent Army; his attempts to find suitable employment on his return from the war, a happy marriage, command of CMF battalions and a brigade in the bleak military years between wars and of his success in his employment in the Orient Line. All this is well told and referenced in this book.

Like most 2nd AIF commanders, Morshead was influenced by his Great War experience and his commanders – his first CO of 2 Battalion who taught him the elements of leadership which included discipline and training and Monash and General Plumer, the commander of the 2nd British Army, for their careful and meticulous planning.

The author correctly points out the immense task faced by Morshead soon after assuming command of the 9th Division. When the AIF was re-organised Morshead lost two brigades – one being the 18th which he had raised at Ingleburn and trained to a high standard in the UK – to the 7th Division in return for two brigades (less a battalion) only recently formed and barely at company level of training and ill-equipped. Added to this, he was on a warning order to move to Cyrenaica and relieve the 6th Division. Luckily, the 18th Brigade, which was already in the Desert, was sent to Tobruk and stiffened his division. That the defence of Tobruk was a success owes much to Morshead’s insistence on training, discipline, priorities of work, aggressive patrolling and defence in depth.

On his return to Australia in 1943 Morshead commanded II Corps in New Guinea and then I Corps in 1944 (6th, 7th and 9th
Divisions) and planned and directed the Borneo operations of 1945. The author covers these in some detail including comments on General Blamey and General MacArthur. There are also comments on the proposed rescue of Australian POWs in Sandakan.

Then there are Morshead’s post-war activities – his presiding over the court of inquiry into the circumstances of General Bennett’s escape from Singapore; his return to the Orient Line; asked to be the Australian ambassador in Moscow; invited to be a state governor; his numerous directorships and honorary presidencies and, of course, the Rats of Tobruk Association. And there was what was known as "the Morshead Report".

In 1957 Morshead was asked by the Commonwealth Government to chair a committee to advise “on the means of obtaining most effective co-ordination in the defence group of departments...”. Essentially, the committee recommended there should be a single Department of Defence. The Government shelved most of the recommendations. This book attempts to explain why. It makes sad reading. (In the 1960s a senior officer and I, when we were in Army Headquarters, Canberra, tried to find a copy of the Morshead Report. We were unsuccessful. It was strongly hinted that copies had been shredded.)

Morshead died on 26 September 1959, aged 70. He was given a funeral with full military honours. Although the Army arranged the funeral it demanded Lady Morshead should repay costs over the laid down basic expenditure and there was further bureaucratic bungling over minor details.

This book is a thoroughly interesting, very well researched read. The endnotes of the 10 chapters and postscript are easily looked up as they are headed by the page numbers on which they appear. So much for bouquets. Brickbats: – I would have liked the book to have a single-page chronology of Morshead’s life. There is at least one error in the secondary sources – Ernest Scott’s history under the wrong heading – and a photograph of Morshead and his battalion officers is printed back to front.

This book is one of the Australian Army history series which probably explains why the present day Army badge is on the dust jacket, a badge with the inscription Morshead and his soldiers in the Great War and Second World War never wore.

Postscript

My company commander friend was in the “Benghazi Handicap” and narrowly escaped being taken by the enemy, probably by the same column that captured Lieutenant General Neame, the GOC Cyrenaica Command. Morshead had been very critical of Neame’s troop dispositions and his criticisms were soon and sadly vindicated.