



A U S T R A L I A N  
**DEFENCE**  
*Force*  
**JOURNAL**



JOURNAL OF THE AUSTRALIAN PROFESSION OF ARMS

**NO. 157**  
**NOVEMBER/DECEMBER**  
**2002**

# Australian Defence Force Journal

## Board of Management

Air Commodore Peter McDermott, AM, CSC (Chairman)  
Lieutenant Colonel Ian Campbell  
Wing Commander Alistair Dally  
Captain Richard Menhinick, RAN  
Lieutenant Colonel Lester Sutton

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.

All contributions and correspondence should be addressed to:

The Editor  
Australian Defence Force Journal  
R8-LG-001  
Russell Offices  
CANBERRA ACT 2600  
(02) 6265 1193  
Fax (02) 6265 6972

## Copyright

The material contained in the *Australian Defence Force Journal* is the copyright of the Department of Defence. No part of the publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the consent of the Editor.

Email: [adfj@ozemail.com.au](mailto:adfj@ozemail.com.au)  
[www.defence.gov.au/pacc/dfj/](http://www.defence.gov.au/pacc/dfj/)

© Commonwealth of Australia 2002  
ISSN 1444-7150  
Published by the Department of Defence  
Canberra 2002

A U S T R A L I A N  
**DEFENCE**  
*Force*  
JOURNAL

NO. 157

CONTENTS

NOVEMBER/DECEMBER

2002

**Editor**

Irene M. Coombes

Contributors are urged to ensure the accuracy of the information contained in their articles; the Board of Management accepts no responsibility for errors of fact. Permission to reprint articles in the Journal will generally be readily given by the Editor after consultation with the author. Any reproduced articles should bear an acknowledgement of source.

The views expressed in the articles are the author's own and should not be construed as official opinion or policy.

**Front Cover**

*Vintage Aircraft Fly-Past. Dedication of the National Memorial to the Royal Australian Air Force, Anzac Parade, Canberra, 1 November 2002.*

Photograph by Sergeant W. Guthrie, RAAF

Printed in Australia

by National Capital Printing,

Fyshwick, ACT, 2609

3. **Letters to the Editor**

5. **Education and Training through E-Learning, and the Implications for Defence**

Squadron Leader J. Elkington, RAAF

23. **Rethinking the Personnel-Capability Link**

Nick Jans and David Schmidtchen

31. **Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?**

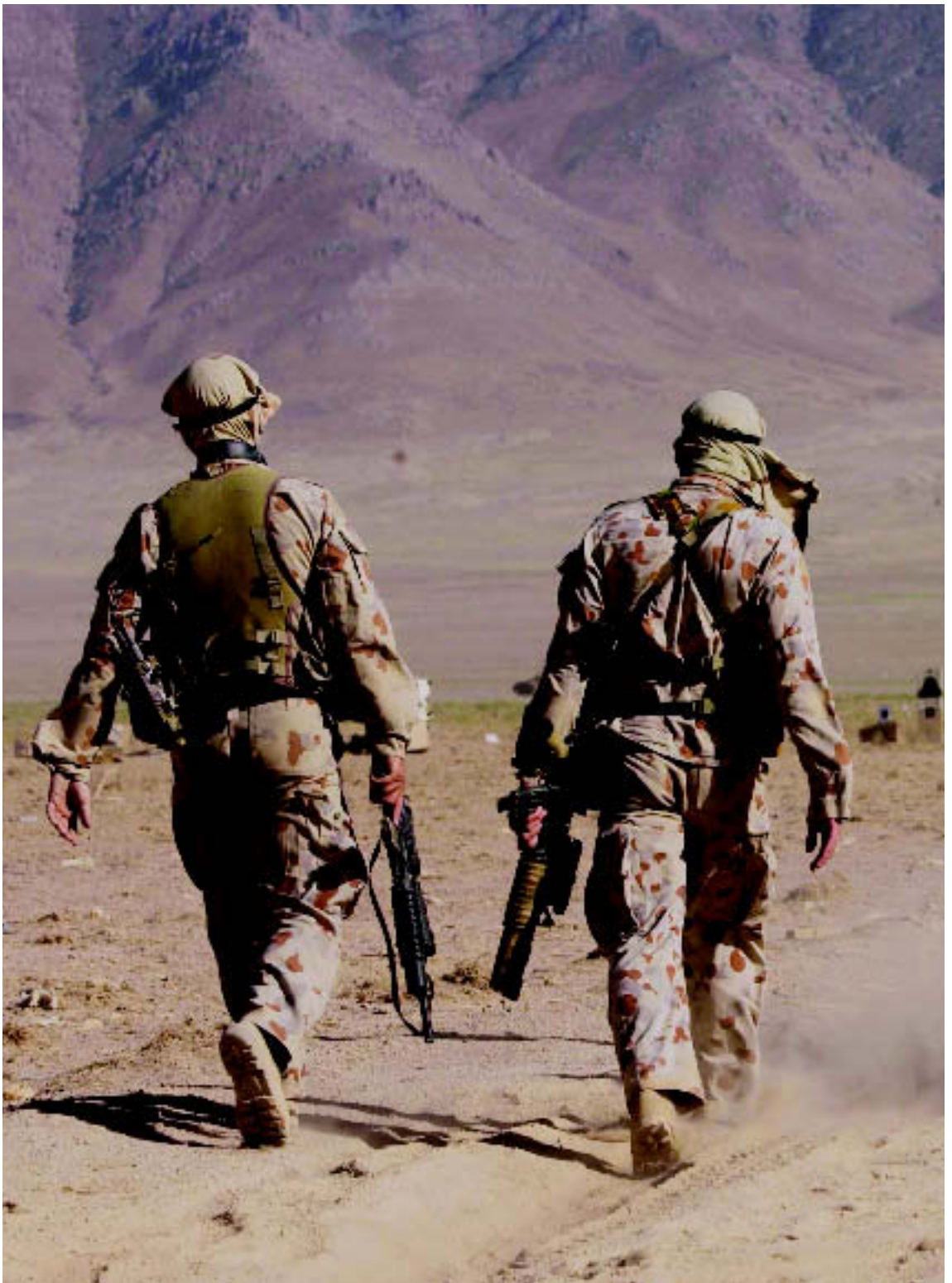
Major Mark O'Neill, RAE

37. **Korean Operations 3RAR  
Raid on John 227 - 25 January 1952**

Lieutenant Colonel M.B. Pears (Retd)

46. **Reviews**

51. **Annual Index**



*Australian Special Forces Task Group soldiers during a training activity in Afghanistan.*

Photograph by Corporal Wade

---

## Letters to the Editor

---

### Dissecting Command and Control with Occams Razor

Dear Editor,


I enjoyed Dr Sproles article “Dissecting Command and Control with Occams Razor” in ADFJ July/August 2002. An interesting thesis. Having put it down in the library I use, I was immediately able to pick up another publication *Artillery Training Vol 1*, Pamphlet 4 “Command and Control in Battle” notified in Army Council Instructions 20 July 1938. The edition was actually re-published in Melbourne.

The first three sections in this pamphlet were titled: “Organisation of the chain of artillery command”, “Duties of Commanders”, and “General principles of control”. A quick look at the text revealed references to Field Service Regulations. Of course differentiating

command and control is fundamental to the effective employment of artillery. This lesson started to emerge in World War I as the concept of firepower mobility was born with its realisation emerging around 1930 in such things as the Royal Artillery’s creation of procedures for “Brigade control” and the US Field Artillery’s development of the Fire Direction Center.

In my view Dr Sproles’ conclusion that the origins of the term command and control lie in the command arrangements developed in World War II to achieve unified command among allies is flawed. I would also suggest that he pays some attention to General Jonathan Bailey’s 1989 book *Field Artillery and Firepower*.

Nigel Evans



**The Board of Management and staff  
of the *Australian Defence Force Journal*  
wish all our readers a  
happy and safe festive season.**



*The internet changes everything, including training.*

---

# Education and Training through E-Learning, and the Implications for Defence

Squadron Leader J. Elkington, RAAF

*The Internet changes everything, including training.*

Sloman<sup>1</sup>

Sloman's quote is a bold statement that sets the scene for this article on education and training through e-learning and the implications this has for Defence. The UK armed forces have recently undergone a number of comprehensive reviews, the broad outcome being downsizing and cutbacks so as to ensure value for money and delivery of an effective and efficient force to protect national interests. A training review also identified the need for rationalisation of training and indicated that technology has extended the opportunity for expansion of education and training through e-learning. The UK's Defence Training Review (DTR)<sup>2</sup> identified key issues for the armed forces and this article will use three case studies to draw on the lessons identified from e-learning as it is used today. This opportunity is mirrored in the Australian Defence Organisation's White Paper - Defence 2000: Our Future Defence Force, where innovation and the use of technology for learning were also advocated.<sup>3</sup> The conclusion to this article will show that e-learning is not the panacea for training in the military, but that a form of "blended learning" is required, which takes advantage of what technology has to offer, yet retains some of the traditional learning methods as there are some things that just cannot be taught over the Internet. Serving in the armed forces is different and, therefore, the training is different because it develops a "culture and esprit de corps that goes beyond attaining specific learning outcomes".<sup>4</sup>

This article examines how the Internet and the World Wide Web (WWW) have influenced training, as claimed in the quote by Sloman,<sup>5</sup> and will discuss the implications for the British and Australian armed forces. The DTR examined education and training in the UK armed forces with the following aim:

*...to consider how education and training can most effectively meet the Department's requirements for timeliness, quality, value for money, doctrine and operational effectiveness until at least the year 2010.*<sup>6</sup>

It was acknowledged that there will always be a need for human interaction in military training. Two key aspirations on e-learning arising from the DTR were: "Increased use of e-learning will help reduce time away from home for students, and will allow personnel on

deployed operations to access training and personal development material"; and, "...for 80 per cent of appropriate specialist training courses to deliver at least a quarter of their material by e-learning within five years".<sup>7</sup> These points will be examined in greater depth later.

Section One of this article analyses learning and training and why we need to develop certain skills, particularly in the military. The fact that the Government has a policy to ensure that training and education opportunities are offered to all personnel, Service and civilian, at any location, demonstrates the importance that is placed on training. This section also defines e-learning and examines how much we already rely on the technology embedded in our systems to

---

achieve capability and operational effectiveness.

Section Two covers three case studies, the purpose of each case study being to demonstrate the various levels of use and application of e-learning within the UK armed forces. The studies examine the delivery of a postgraduate qualification, gaining a recognised competency in basic computer skills, and acquiring an operational skill. The Postgraduate course is a Master of Defence Administration (MDA) and is conducted along the lines of distance learning using the WWW for delivery. The second case study examines the delivery of a basic course in computer competency skills to a Defence-wide audience. The example used is the European Computer Drivers Licence (ECDL), which is an internationally recognised Certificate of Information Technology competence in computer skills delivered via CD-ROM and Intranet. The third case study demonstrates a well-known dimension of e-learning – simulation or synthetic training. The Air Traffic Control Visual Simulator (Vissim) is a stand-alone system, scenario driven, with input provided by instructors designed to achieve certain competencies in the 23.5 week Air Traffic Control Course.

Section Three examines the implications of e-learning for military forces. Discussion focuses on the benefits of e-learning and the question of whether military training is compatible with e-learning and, if not, which components would be suitable and sustainable. Given that we have entered the Information Age and the pace and direction we are heading, the argument against e-learning will be difficult, but we need to consider both sides of the argument, in financial terms and training values before hurtling down a path of no return.

The origin of the Internet can be traced back to 1969, to the Advanced Research Projects Agency (ARPA) of the United States Department of Defense, connecting military,

university and defence contractors. This was the beginning of transferring data files, email, text, images and software. At least three decades ago, the World Wide Web (WWW) was first seen as a convenient method of sharing documents over the Internet, enabling information sharing by internationally dispersed teams and originated within the High Energy Physics community. The Internet was made user friendly for the public in February 1993, when Marc Andreessen at the National Supercomputer Laboratory (NSCA) in the United States developed an early browser known as “Mosaic”, which was popularised in September 1993 when versions for Windows and Macintosh were released. By mid 1994, Mosaic became Netscape and developments in Web Browsers have continued from then.<sup>8</sup>

The Internet is the network that supports the WWW. This article offers the following definition of the Internet, as used by Ingliss, Ling and Joosten in *Delivering Digitally* -

*It is a myriad of links of all types interconnecting sites across the world. It comprises wire cables, optical cables, microwave links and even satellite uplinks. It interconnects telecommunication companies, universities, research organisations, government departments, Internet service providers and individuals.*<sup>9</sup>

Businesses and consumers began to take advantage of the Internet as it moved from its initial existence as a research and academic network; today, the Internet is used actively to retrieve information, communicate and conduct business globally, and access a vast array of services and resources on-line. The most popular use of the Internet is electronic mail – “email”, but it extends to other developments such as book and magazine publishing, video conferencing, and audio broadcasts, thus giving rise to our current era being labelled the “Information Age”. Networked games, monetary transactions, shopping, and virtual museums are among the applications being developed. Through the

protocols of the Internet, the WWW has provided convenient access to resources in an appealing format thus enabling the digital delivery of education and training programs.

The British and Australian armed forces are developing strategies in e-learning, and discussion on the potential successes versus shortcomings of e-learning within the military environment will be based on examples from these organisations. Both establishments receive strong support from their respective governments and Defence executive, to develop sound training networks that enable through-life learning, career progression and personal development for their personnel. It is evident that their ultimate goal is to remain at the forefront of the knowledge edge and exploit any technologically related developments that place one ahead of any potential adversary.<sup>10</sup> The conclusion will draw the arguments together and provide comment on the future of e-learning in the military, balancing the costs and benefits in achieving the outcome of making the most effective use of technology to remain ahead of the adversary.

### SECTION ONE

*Learning lies within the domain of the individual; training lies within the domain of the organisation.*

Sloman<sup>11</sup>

Throughout our lives we absorb information, we are educated and are trained for specific reasons, such as employment. Initially we learn to survive and become educated in life's basics. Eventually we choose what we learn and follow personal interests or fields that are related to a career and earning a living. People extend themselves and master skills for sport or hobbies. The motivation for everything we do is driven at various levels with the rewards being intrinsic or extrinsic, sometimes dictating the motivation level for commencing and/or completing a course or training. The following definitions from

Sloman are offered in support of discussions: Learning – “the physical and mental process involved in changing ones normal behavioural patterns and habits.” Training – “the process of acquiring knowledge and skills related to work requirements using formal, structured or guided means, but excluding general supervision, job specific innovations and learning by experience.”<sup>12</sup> E-learning enables flexible access for individuals in the Information Age, combining both learning and training. It benefits both the individual and the organisation despite the inference suggesting a split between learning and training. However, it could be argued that e-learning blurs this gap, and it becomes a blended form, with the responsibility for both learning and training shared by the individual and the organisation. The issue of *life-long learning* will be discussed in greater depth in Section Three.

When the subject of e-learning is raised most people immediately align themselves with the following definition offered by Sloman in *The e-learning Revolution* – “the delivery of learning or training using electronically based approaches – mainly through the Internet, Intranet, extranet or web (the “e” is a shortening of “electronic” originally popularised for e-mail, the transmission of messages digitally through a communication network).”<sup>13</sup> Sloman bases his discussions on this definition. However, for the purpose of this article, discussion will be based on a combination of the definitions proposed by the Australian Defence Force, and by the DTR for the UK's defence-wide e-learning strategy.

*E-learning is the collective term describing training delivered using electronic training devices, including web-based systems, and computer and communications technologies anywhere and at anytime it is needed or desired.*<sup>14</sup>

These definitions encompass more than just the concept of delivery via the WWW. They also promise flexibility, which is a vital element in today's environment and one that

supports the Revolution in Military Affairs (RMA), which is expanded on in the next paragraph. The Australian Defence Organisation's E-Learning Strategy also reinforces this trend of *delivery using electronic training devices* – whereby it acknowledges the broad definition as:

*E-learning is explained as anything delivered, enabled or mediated by electronic technology to facilitate the right people learning the right information, skills and attitudes at the right time. Radio, audio/video tape, and TV are associated technologies. It is the capability of computers though, that underpin the present attention on e-learning. It is these capabilities that may cause many people to equate e-learning with on-line learning (the use of electronic networks to support learning). Simulation is a dimension of e-learning.*<sup>15</sup>

Military capabilities and operations have been significantly affected by improvements in technology. These improvements have primarily been driven by civil and commercial needs, but have had a significant affect on the military's ability to increase the "speed and capacity to collect, organise, store, process, tailor and distribute information."<sup>16</sup> This uptake of information technology, pioneered by the United States, has been labelled the RMA, and is characterised in the following extract from the Australian Defence Organisation's White Paper, *Defence 2000*: "integration of military forces for joint operations; individual systems and capabilities networked together to achieve whole-of-force effects; technology changes and changes to military operations and doctrine; increased tempo of operations; and asymmetric threats."<sup>17</sup>

To keep pace with the RMA and take advantage of what it offers, the armed forces must place a high value on new personnel skills and approaches to training, accommodating the technological advances implied in the RMA.

Why do we educate and train? There are many reasons for education in the military including: the provision of knowledge and understanding that underpins individual training, thus contributing to development of ethos and commitment and delivery of military capability; to gain skills and knowledge to enable members to perform at a higher rank and responsibility; and, to promote the opportunity for all-round personal development for "through-life" learning and career progression and transition following a Service career.<sup>18</sup> Training is linked with education in the learning process. The desirable outcome of training is to ensure that personnel can contribute effectively to the Defence Mission, which is essential for the operational effectiveness of the force, this includes the ability of personnel to manage Defence business efficiently, and encourages personnel to achieve their full potential. Because we are competing in the "War for Talent" as identified by McKinsey, training plays a vital role in attracting and recruiting personnel. Once a part of the force, it is necessary to be seen to develop personnel with *through-life* training to ensure that the armed forces are seen as an employer of choice.<sup>19</sup> To complete the cycle, personnel should be encouraged to undertake through-life training and establish future personal development so that they are able to transition from the armed forces with adequate transferable skills. In summary, learning and training are pivotal in contributing to and achieving capability, operational effectiveness, personal development, effective and efficient job performance leading to job satisfaction, resulting in high morale – all desirable traits sought by military personnel.

The DTR accurately reported that whilst the standard of training conducted by the UK armed forces was of a very high standard, it was disjointed, often resulting in duplication and a waste of resources. It lacked coherence and direction, was not customer focussed and needed a single common policy and adoption

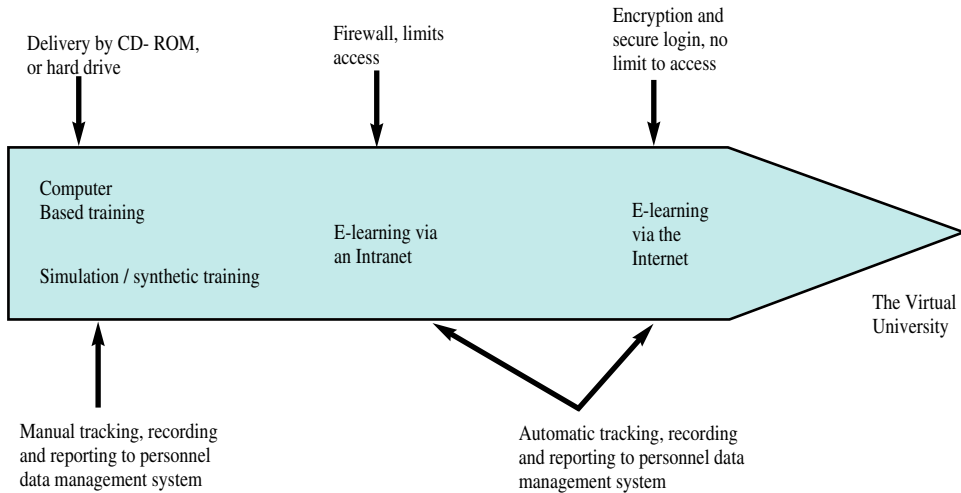


Figure 1. The E-learning continuum

of best practice, Defence-wide. Gaps in leadership and management training at senior levels were identified in the UK while training for civil servants was almost non-existent. On the positive side, though, the armed forces were seen as good at training for, and winning conflicts. Perhaps the armed forces had not caught up with the pace of the RMA [technology] and legacy-training methods were being used for the new systems. Training needed to move away from a Cold War stance to a joint, multi-national environment. The DTR recommended that through expansion of e-learning, individual education and training could be more accessible to all personnel, any time, anywhere.<sup>20</sup>

To clarify the differences between computer-based training, Intranet and Internet, an e-learning continuum is provided in Figure 1. Whilst they are all forms of delivering e-learning, it is important to understand each one as the discussion will refer to various points along the continuum.

## SECTION TWO

The case studies selected for this article demonstrate the different types of e-learning used by the armed forces today. These studies provide a basis for discussion on the implications for Defence including motivation, results, personal development versus training requirements, and contribution to the armed force's capability and the individual's professional development. The DTR identified the need for improvement and these case studies cover three of the key areas identified: development and education for senior leaders and managers; basic information technology and computer skills for all personnel; and to make maximum use of synthetic training in the Defence environment.

Case Study One, the MDA, is an interactive e-learning system offering a postgraduate qualification. This demonstrates a sophisticated form of e-learning using the WWW as a delivery method within a blended learning setting combining compulsory residential periods as well as the requirement for the tutor to be "in touch" with respective students. This

is a tailored course, available to a selected set of military officers, civil servants and defence industry managers who have demonstrated an ability to apply themselves and aspire to personal and career development goals.<sup>21</sup>

Case Study Two, the European Computer Drivers Licence (ECDL) uses a form of e-learning to enable Defence-wide access to training and a qualification. An outcome of the DTR was that all Defence personnel require the basic skills taught on this course and it would be the pilot course for Defence-wide e-learning. In contrast to the MDA, this course is compulsory, and therefore offers the opportunity for discussion on managing motivation and achieving a successful end-state when dealing with a large number of users. This case study will introduce discussion on aspects of: infrastructure, costs, management and ownership of courseware; testing, tracking, recording and reporting of results on the personnel database; and the security and policy for delivery of e-learning.<sup>22</sup>

Case Study Three, the Vissim introduces the aspect of “simulation”, a dimension of e-learning or “synthetic training” as it is referred to in the DTR.<sup>23</sup> Air Traffic Control personnel undergo this training, and their operational competency is dependent on successful completion of this section of the training. There are many uses for simulators in Defence including flight, communication and maintenance simulators. Training in the operational arena has previously relied on scarce and unpredictable resources such as aircraft serviceability, the weather and competition with real-time operational demands. Through the introduction of simulators, synthetic or scenario driven training has provided a method of training reducing risk, cost, and adverse conditions. The Vissim case study will introduce discussion on training through simulation, and the potential for development in this field, in particular for Defence.<sup>24</sup>

### Case Study One – Masters in Defence Administration (MDA)

The MDA offered at the Royal Military College of Science (RMCS) is a one-year full-time or a two-year executive part-time course designed for civil servants, military officers and defence industry managers. The course aim is:

*... to enhance defence management expertise by equipping students with appropriate operational and strategic management skills to contribute effectively to the broad fields of development policy, operational research, procurement, support, budgeting and contracting, resource management and forward planning.*<sup>25</sup>

This is a structured package for on-line delivery of lectures, based on interaction that would occur in the lecture theatre, and it offers the student a choice to navigate through the modules at his or her own pace. In addition to the delivery of the course content, students have on-line access to research portals, links, messages, a bulletin board and email. Various teaching methods are used, “including business games, simulation exercises, videos, lectures, role-playing, and case studies.”<sup>26</sup> For those undertaking the “on-line” version of the MDA, the compulsory residential school, of one week per term, covers those parts of the course that require personal and group interaction. Examinations are conducted on campus, though with further development and expansion it is anticipated that “in country” schools and examinations may be organised.

The “on-line” version is being offered as an additional variant, over four years, and is designed specifically to supplement the current residential and distance learning programs offered by Cranfield University. This e-learning package offers the opportunity to access the degree on line. A key feature of the package is that it has not removed the focus on teacher-student interaction. Students are required to attend residential sessions throughout the year. On-line the feedback flows both ways enabling

direct contact between tutors and students. Students are still issued with set texts, additional supplementary texts, and a workbook.

The program is interactive and has several levels of testing understanding built into it. The course is divided into modules and as it is interactive, it prompts or tests levels of understanding throughout the module. The student can respond to questions and/or activities. The tutor assesses the student at the end of each module and provides feedback as required. Delivery of this course on-line, either via the WWW or CD-ROM, reduces the time that the student spends at the college thus providing flexibility to suit varying lifestyles and priorities. An important factor regarding motivation to complete this course is that students have to apply for selection, therefore, they have already demonstrated an element of personal drive towards applying themselves to study, either on-line or through other distance learning.

Development and set up costs for the on-line program were greater than those for the “off-line” course, though with development mirroring existing programs it is difficult to quantify its exact price. Moreover, the cost to the institution and the delivery of the course is not seen as being substantially cheaper. However, while the on-line course does not bring immediate financial savings the benefits are apparent in its long-term maintenance costs. What is most important though, is that this case study demonstrates that the MDA course provides an example of how the gaps in training are being filled for senior personnel (OF5, 1\*) in the areas of business leadership and management skills. Delivery of this course via e-learning is providing flexibility, accessibility and shortening the residential training time. Additionally, it contributes to the Government’s “lifelong learning” concept and the acquisition of skills for improved transition from the military environment by developing transferable qualifications.

### Case Study Two – European Computer Driving Licence

The DTR proposed that: “80 per cent of appropriate classroom-based specialist training incorporates a minimum of 25 per cent e-learning within five years”.<sup>27</sup> To achieve this, it was recommended that the Ministry of Defence (MoD) use a combination of CD-ROM, Intranet and Internet delivered training to exploit the advantages offered by e-learning technologies. To enable all employees to take advantage of this technology, they would need to acquire basic skills in information and computer technology. The ECDL is an internationally recognised Certificate of Information Technology competence in computer skills. This training aims to provide a formal qualification recognised in the United Kingdom and Europe to all Defence personnel. All new employees would undertake the training and attain the ECDL qualification.<sup>28</sup> Development and oversight of the system is provided by the section known as the MoD ECDL Management Centre (MEMC) of the Specialist Course Division (Spec CD) at RMCS, Shrivenham, which is recognised as the MoD’s ECDL Accredited Test Centre.

Training for the ECDL is delivered to E-Learning Facilities (ELFs) throughout the MoD in United Kingdom, and overseas. Where connectivity is not yet available, the system will be updated manually or offered via CD-ROM. Figure 2 shows the infrastructure links in the mature MoD system.<sup>29</sup>

The links are dependent on the development of a MoD-wide Learning Management System (MLMS) and will take advantage of the cost-effective management of e-learning. Currently, ELFs allow Service or civilian personnel to undergo ECDL training on interactive modules and to undertake the exam that earns them the certificate. Results are reported to the personnel management systems of the respective Services. Topics covered by ECDL include basic concepts of Information Technology, File Management, Word

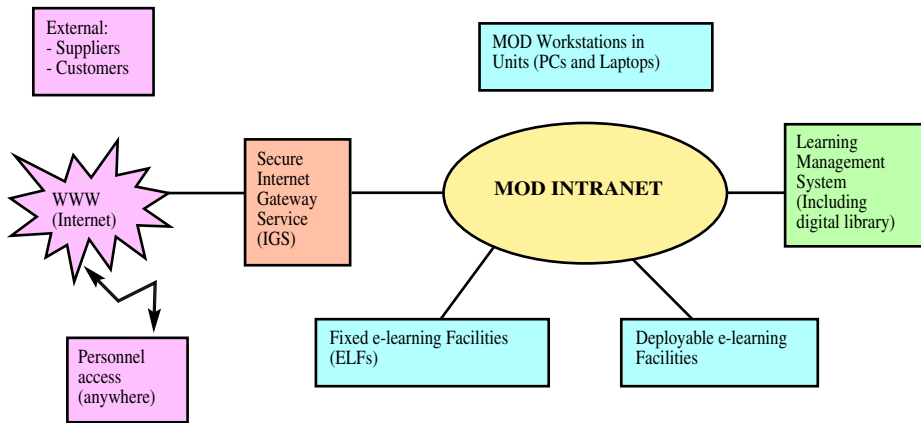


Figure 2. Infrastructure Links

Processing, Spreadsheets, Presentations, Databases, Internet and Email. These are core competencies in today's work environment and need to be taught properly for personnel to do their jobs efficiently. In accordance with the aims of the DTR, this type of training ensures that training and education is kept cost effective and offers a single common approach within Defence, which standardises courseware and reduces duplication of effort. Eventually, as broad connectivity is achieved, increased opportunities for learning at work, at sea or at home will be realised.

The ECDL is the pilot "Defence-wide" e-learning course, and it will provide the framework for learning, tracking, testing and recording, paving the way for future delivery of courses or modules. Development of specific courseware will remain the responsibility of individual training establishments, with some advantages achieved through rationalisation of courses and joint training.<sup>30</sup> With central control of a library of learning objects, consistency and re-usability of these objects will improve efficiency and economy of courseware design and development. Once the issues surrounding security of information and encryption are developed, tracking, testing and reporting can be directly linked with personnel databases. This facility will greatly enhance the

management of personnel. The Initial Business Case for the e-learning Portal and Learning Management System Project offers the following advice in support of savings realised through e-learning:

*To administer ECDL accreditation for all new entrants to MoD (approximately 30,000 new entrants per year) would require an admin staff in excess of 20. Implementing e-learning portal would significantly reduce the admin costs to as little as five personnel. In addition, the e-learning portal would reduce the cost of stationery to administer the ECDL accreditation by negating the need to print and despatch 60,000 forms, letters and certificates per year.<sup>31</sup>*

This case study is an example of the acceptance of the Information Revolution and its significant impact on Defence as detailed in the DTR. Future successes will be dependent on how well we exploit technology. Success is reliant on employees achieving the basic computer skills necessary to do their job well and exploit the communication and information technologies. The study shows that the UK armed forces are adopting the approach of building a consistent, Defence-wide approach, with advantages such as: increased flexibility; reduced costs through the

elimination of duplication and wastage of resources; and reduced administration overheads through the “e-management” of e-learning, i.e. recording, tracking and reporting of course completion by personnel directly into personnel data bases. The ECDL course will provide the foundation for the way ahead, and enable the military to reap the benefits of e-learning.<sup>32</sup> As Elliott Masie observed, “We need to bring learning to the people instead of bringing people to the learning”.<sup>33</sup>

### Case Study Three – Air Traffic Control Visual Simulator

Training of Air Traffic Controllers was reliant on live flying, which in turn was dependent on the weather and the availability of aircraft. The option to use helicopters caused a conflict of interests between two schools – School of Air Traffic Control and helicopters from the Flying Training School. The introduction of the Visual Simulator (Vissim) in 1991 at RAF Shawbury freed up the dependence on live aircraft, fuel, pilots, engineering, and also provided a guaranteed environment in which to operate.

Vissim projects a panoramic colour display of an airfield, showing topographic features and specified static features including runways, taxiways and buildings. It realistically simulates the movement of three dimensional aircraft and vehicles around the airfield and is able to display visual effects such as fire, explosions and smoke. Vissim can also portray a range of weather conditions and daylight settings. Through introducing the student to various exercises that simulate a variety of scenarios, instructors/supervisors are able to adapt the exercises in real time to reduce or increase the amount of activity around the airfield to prevent predictable scenarios. Standard and non-standard (emergency) situations and procedures are introduced.

The Vissim also provides a full realistic communications package to enable students to

participate in both radio and landline communications. Exercises are prepared off-line and can then be adapted during the running of the exercise, and they can be paused if required as an instructor sits behind the student during the missions. Exercises normally last for 50 minutes and can have Ground or Tower positions and are debriefed following completion. An exercise involves two students, each with an instructor, an exercise supervisor and two target operators, who effectively “fly/drive” the aircraft/vehicles around the aerodrome. In addition to the visual elements of the simulator, it also features sound to simulate the noise of aircraft passing the tower.

The flexibility and realism offered through the top control tower simulation of Vissim, overcame the previous restrictions suffered in a “static” visual control room relying on voice inputs simulating aircraft transmissions and telephone calls from other agencies to create scenarios. Vissim satisfied the essential need for the student, at the more advanced stage, to develop visual perception of events, through “looking out”, and no longer relying on the access to dedicated live flying at RAF Shawbury.<sup>34</sup>

The Vissim trains students to an advanced level and they are then expected to obtain the appropriate operating endorsements at any military airfield with a minimum of local area familiarisation and on-the-job-training to assimilate procedures peculiar to that unit. It teaches students to maintain a safe and expeditious flow of aircraft departing, joining or remaining within the visual circuit area and in the integration into the visual circuit of aircraft recovering from instrument/radar approaches. It can also be used for refresher training for controllers returning to a unit where they will need computer-terminal skills. Once in the exercise, students are in a very “real” environment and hence it is possible to introduce far more scenarios than would be possible using live aircraft.

This case study demonstrates how the use of e-learning, simulation or synthetic training delivers effective, flexible training at less cost and less risk, and meets the environmental restrictions imposed upon training, all key points raised by the DTR. It is acknowledged that live training cannot be ignored in the military environment, but e-learning does provide the opportunity to train and test personnel, on equipment that costs far less than the real thing.<sup>35</sup>

### SECTION THREE

*Time for individual learning competes with other organisational demands.*

Sloman<sup>36</sup>

Many proposals for the modernisation of all education and training methods have been made. The common theme behind these proposals is the need to develop and use information technology and e-learning within training to enable the equal opportunity of training and accreditation to *anyone, anywhere, anytime*, and the development of a strategy to ensure a joint approach to education and training within Defence. Key benefits achievable through e-learning are: provision of better support to deployed operations; enhanced operational effectiveness through greater efficiency in training and refresher training; reduced residential training time away from unit and family; increased opportunities for career development at home and whilst on deployment; and, the provision of more cost effective training through coordinated management of e-learning and delivery.<sup>37</sup>

How does Defence benefit from e-learning? Assuming there is hardware support, e-learning courses can deliver to anyone, anytime, anywhere, and therefore offer flexibility and ensure that training can be delivered at the point of time and need. "Just-in-time" training and in-theatre training options can also be addressed via e-learning. E-learning can target individual training needs

as it allows individuals to work at their own pace and to engage with tutors or support staff as required. The on-line MDA addresses teacher/student interaction and feedback within the e-learning environment, and attempts to reduce any barriers to ensure that the student's needs are met. In offering this on-line course, staff numbers are not reduced; tutors have the same number of students as they would in the traditional environment. However, in managing their program, they must ensure that they allocate sufficient time to deal with their on-line students' daily needs. The on-line MDA is offered on a small scale, therefore making it more manageable and to keep the level of support to their students at a suitable level. E-learning will not run itself, and therefore needs to have trainers and educators as part of its support system.

An implication for Defence is that an extensive support system would be required. Current course content will require conversion for "e" delivery. Not all content will be suitable for e-learning. There will always be some education or training that will require interaction, or be skill or attitude based. However, material that is suitable for conversion to e-learning is best done in modularised form, thus enabling delivery of the course in modules, perhaps using a combination of e-learning and traditional learning. Conversion will require input from training staff to convert/create the new courseware, or to identify potential Commercial Off The Shelf (COTS) courseware that is compatible with Defence training needs. Additionally, the infrastructure required to support such training delivery requires attention and may include the Internet, Intranet, ELFs or CD-ROMs. Support for e-learning includes a content manager, system support managers, system administrators, security administrators, courseware developers, training designer, tutors, trainers and mentors. The issue of "training the trainer" is raised, as

current training staffs seek the new skills required to conduct and support e-learning.

Modularising courses will result in several advantages. Delivery will be flexible and enable more personnel to access content as it suits them. This will achieve two of the key points raised in the DTR, being to reduce the residential time away from unit and family and to offer increased opportunities for career development. Personnel will be able to select subjects or modules that will enhance their skills and thus make them more effective in the workplace and more competitive for promotion. Courses requiring residential time can be shortened, as students can receive course material prior to attending the course, thus allowing them time to concentrate on those elements of the course that require teacher/student interaction. A reduction in overall training time will allow personnel more time for operations, thus having a positive impact on operational capability and force readiness, or alternatively, more time at home with their families, making a positive contribution to their quality of life.

A disadvantage or, perhaps more appropriately, a consideration when contemplating the implementation of e-learning is what effect “flexibility” may have on students and the cultural implications within the Defence environment. The nature of e-learning transfers the burden of ownership, or responsibility for learning on to the individual. This is then affected by three different factors: personal motivation, the organisational environment and the physical environment.<sup>38</sup> Each case study gave examples of different cultural environments. Candidates for the MDA have to compete for selection on the course and already exhibit personal motivation and the desire to complete a professional course. The ECDL has to be completed by all employees, whether they choose to or not, and therefore motivation to complete the course, without external support or guidance, may be lacking especially if they

are not already “computer literate”. Vissim candidates are on a residential course and the synthetic training is part of the course content, therefore the culture for this course is already in place, and graduation from the course is dependent on this training.

Personal motivation can be assisted through a combination of appropriate processes for access to e-learning and careful management, because personnel need to understand and accept the responsibility to drive their own learning program. Individuals undergoing e-learning can work at their own pace, with or without a tutor, and the incentive for completing an e-learning course will vary. With the development of continuous career development or “through-life” learning, and the desire for progress or promotion, most personnel will have sufficient drive to achieve training goals.

The organisational environment will also have an influence on the success of e-learning. Because it is a departure from the traditional training/learning methods, it is important that the trainers and support staff for e-learning courses are well educated in the delivery of the courseware. The support and encouragement from senior management on the status gained through completing a course via e-learning is also vital to its success of creating a culture of continuous personal development. Course completion through e-learning needs to hold the same status as completing traditional training. Feedback from personnel to measure the success is important to validate the e-learning strategies and to continue to provide a form of training that is second to none.

The physical environment for e-learning will contribute to the outcome of e-learning. Interruptions and noise levels in the study area will affect the quality of learning, as it does for traditional learning. Providing a suitable environment such as the ELFs will remove distractions and encourage quality course time. This may prove difficult when e-learning is

undertaken in an operational environment, or in the office, if there is not a more suitable option. However, e-learning provides the flexibility option that enables students to choose where and when they undertake their training according to their needs at the time.

From the preceding discussion, it is clear that one of the hurdles for success with e-learning is to address the change of culture that will be required. Simulation or synthetic training, is usually conducted on a course or in time dedicated or programmed for training such as the Air Traffic Control Course and the Vissim, and is therefore not as much of an issue as that of "learning on-line". However, when undergoing training or education, unless students are on a course where the attendance time is programmed, students need to make time or have time allocated for study. As Sloman indicates, "Time for individual learning competes with other organisational demands."<sup>39</sup> In the workplace, higher value is placed on work as it produces tangible outcomes, whereas learning is seen as a separate activity, with a lesser value placed on it. For e-learning to be successful, the culture of learning and the workplace will have to be reviewed.

As the ECDL case study demonstrates, delivery of this course at April 2001 is only via the Defence Intranet or through specific learning facilities. For UK armed forces personnel, it is not yet available in the home or on the desktop at work. Subsequently training will be undertaken at an ELF in work time or allocated training time. The ECDL is available via the Internet commercially, but personnel would be responsible for registering and paying, then providing a copy of the certificate to the personnel administrators. The MDA case study shows a flexible approach to delivery via the WWW, meaning that students can access the course at home or work. However, whilst e-learning offers the flexibility of choice and access, it encroaches on people's time at work or home, as does any distance or

correspondence learning program. Acceptance of e-learning as a part of continuous career progression and through-life learning means that management has to promote and support it without placing the individual at a disadvantage or under stress. The United States Department of Defense has issued a directive that not only encourages, but supports e-learning and voluntary education by its personnel.<sup>40</sup> Support for e-learning needs to start from the top down, and continue through each level of management so that the culture changes, accepts and promotes e-learning. This support is evident in the UK armed forces, with the recommendations and actions arising from the DTR. The Australian Defence Organisation's human resource plan, the People Plan, also strongly endorses a policy of personal development and through-life learning, thus creating a positive culture for promoting learning.

Another major hurdle to overcome is connectivity and a Defence-wide approach to e-learning that will enable more efficient training development and a rationalisation of resources. E-learning offers the option of re-usability of learning objects and standardisation of courseware, design and development. Once a course is designed and the material used for the course is stored in the digital library (see Figure 2), it can be re-used for other courses. A Defence-wide system will ensure this can be accessed by all trainers and thus reduce the costs associated with developing courses with similar content. Standardisation and rationalisation of resources will lead to reductions in cost and time, and avoid duplication in course development. A Defence-wide approach to e-learning contributes to a greater opportunity to offer a wider range of training opportunities including the use of external material from universities or commercial providers. Access is a key benefit from a Defence-wide approach, leading to all personnel having the opportunity to undertake personal training anytime,

anywhere, including just-in-time training and refresher training prior to deployment.

E-learning brings an enhanced image to Defence as it exploits new training technologies in today's environment and the "war for talent". Defence is more likely to be seen as an employer of choice thus having a positive impact on recruiting and retention. Additionally, e-learning provides easy access for an expanding range of career and personal development courses that contribute to the development of a "life-long" learning culture proposed within Defence whereby all personnel should have access to learning opportunities to complement individual training and for personal development. Through e-learning, all personnel have the choice to address the gaps in their skills and competencies, and to take over responsibility for their careers and control over their career direction. People today expect modern training methods and the opportunity to participate through choice.

The case studies offer the opportunity to highlight some of the major factors that Defence will have to address. Infrastructure cost and supporting the delivery of e-learning are major concerns as is connectivity through a Defence-wide Intranet; the latter is a key enabler for e-learning. Extant Defence policy demands a mobile force, deployable worldwide at short notice. Therefore it is important that delivery over the Internet is acceptable. However, current policy limits the material available according to the security classification assigned to it. The MoD is using the pilot ECDL course to set-up and test the Defence Intranet and Learning Management System (LMS). Achieving full connectivity may not be possible, meaning continued use of CD-ROMs in some instances, which then raises the issue of currency of material. Broad connectivity will also enable recording and reporting via the Intranet directly into the personnel management system.

The Cranfield MDA case study has resolved the infrastructure and security issues, the

former by delivery of the MDA course via the WWW, and the latter by using encryption and site access via individual login and password. Using the WWW means that the course is available to students and tutors - anywhere, anytime. It has avoided the need to develop or rely on an Intranet to service the course and students will still be able to access the library and reference portals to assist their research. Cranfield University has acknowledged that whilst there is no immediate cost savings realised in delivering an on-line course, they are aiming at meeting the needs of today's students with the key issues being access and flexibility.

The Vissim is a stand-alone system and can only be used on site; therefore it does not raise the same issues as the other two case studies. Although it does not offer training anywhere, anytime, it does meet the requirement to maximise the use of synthetic training and its application has a positive influence on the way we train. Computer-based simulation provides a cost-effective training tool using virtual reality-based simulators for operations. Vissim has removed the requirement to rely on live flying, thus saving scarce resources while offering far more flexibility for students. Simulation now offers them the opportunity to practise and test themselves in situations that would previously have involved great personal and material risk and high operating and maintenance costs. Additionally, extra scenarios can be provided for students requiring revision or increased work in certain aspects of their training. This is an ideal training tool for the military environment and offers scope for increased use. As stated in the DTR, "In the longer-term, greater exploitation of Synthetic Training and the related improvements to training could allow for reductions in the procurement and update of defence equipment."<sup>41</sup>

The Australian Defence Organisation has recently commissioned computerised shooting ranges, adding to the computerised weapon

facilities used for training at the recruit training centres. The greatest benefit of simulation in weapon training is that it allows a learner to deal in a realistic way with vital information and skills, without risking the dire consequences of making wrong choices. The Training Technology Centre in the Australian Army have experimented and used controlled field studies that have proven that Technology Based Training, or simulation, decreases skills fade and learning decay. Figures have shown that training costs depreciate by a third and learning increases by one third. In one particular package, there has been an increase of one third in the awarding of a B grade (as compared to when the material was delivered in a face-to-face format).<sup>42</sup>

*These training ranges are used to practise, assess and validate basic shooting skills for military personnel and most of Defence small-arms weapons live firing is done on these ranges. Changing requirements, such as shooting with night-vision equipment and the poor reliability of old target equipment highlighted the need for new systems. Defence recognises that effective live firing of personal weapons is an essential skill for all soldiers and that the facilities for learning and practising this skill must be world-class.*<sup>43</sup>

Flight simulators are an integral part of pilot training and have existed for much longer than the recent e-learning concept. They perform a vital role in meeting initial training needs and ongoing operational requirements whenever a new aircraft is brought into service. A recent example of the relevance and importance of synthetic training is demonstrated in the RAF's strategic airlift capability and the leasing of the C17 aircraft. Delivery of the first aircraft occurred within a year of agreement, meaning that the time available to train aircrew and support staff was limited. As it was a new capability, no current training existed within the RAF, and there were no aircraft available for training. Training

time using aircraft was reduced through the use of simulators and e-learning modules. Therefore, e-learning combined with simulation played a key role in achieving the required competencies and operational capability that could not have been achieved in the timeframe available using previous training methods. A combination of trainer/student interaction based on e-learning ensured that staff were able to meet the task. Immediately on delivery of the C17 it was in operational use by the RAF supporting operations in Macedonia.

The UK armed forces and the Australian Defence Organisation (ADO) have very similar strategies for e-learning. Both are at about the same stages of implementation in setting up an LMS, and linking it with personnel administration systems. The benefits can be realised by both forces through the rationalisation of resources and provision of a standardised learning platform, thus ensuring all personnel have access to learning opportunities. An advantage for the Australian Defence Organisation is the scale of the organisation and the fact that Defence-wide connectivity is closer to completion than that for the UK armed forces. The ADO (permanent forces, Reservists and Public Servants)<sup>44</sup> is catering for approximately 103,000 users and is implementing Personnel Management Key Solution (PMKEYS), which replaces the stand-alone personnel management systems and gains considerable efficiencies including provision of more extensive management information available for human resource planning. With the development of e-learning coupled with the near Defence-wide connectivity and the provision of hardware, PMKEYS offers the potential to facilitate tracking and recording of individual's results on personnel administration systems as they undergo e-learning.

The UK armed forces have the task of establishing MoD-wide connectivity to offer the flexibility and access for over 200,000

personnel, distributed widely within the UK areas of operation.<sup>45</sup> However, with the ECDL as the pilot project, the potential to deliver MoD-wide e-learning is nearing reality. Delivering the ECDL course Defence-wide will be a key milestone in the progress of e-learning in the UK armed forces and set an example for all other armed forces as well as the commercial sector. The on-line version of the MDA is an example of developing career opportunities for senior management. Both the British and Australians have legacy training systems from separate arms of the Services. Rationalisation of courses, design, development and delivery will provide savings in course development, time spent away on residential courses, training facilities and residential accommodation for courses.

## Conclusion

*Social, technological and economic drivers are transforming education around the world. As globalisation encompasses local economies like never before, the development of a skilled workforce becomes a genuinely international concern. And as human capital becomes the chief source of economic value, education and training become lifelong endeavours for the vast majority of workers.*

Peter J. Stokes<sup>46</sup>

Whilst it is difficult to immediately quantify real cost savings through e-learning, the real savings will come when it is integrated into the training system. The quote by Stokes reminds us how much education and training is part of our lives today, emphasising the issue of it being a lifelong endeavour. Good training is the key to a successful business or organisation, and the armed forces are no different. It is vital that policy is set to maintain the key advantage and “to remain at the forefront of the knowledge edge and exploit any technologically related developments that place one ahead of the potential adversary.”<sup>47</sup> The DTR provides the

framework to guide the UK armed forces towards implementation of their e-learning strategy with the introduction of the ECDL course providing the measure of progress and success of delivery and management of Defence-wide training, as well as providing the computer skills to all individuals so that they may benefit from the Information Age.

The desirable outcome for e-learning would be that it be embedded in the training regime for Defence, linking the needs of the individual and the organisation. It needs to be accessible, efficient, reliable and user friendly, anytime, anywhere; managed appropriately via a single Defence-wide system and linked with the personnel management or human resource systems.<sup>48</sup>

E-learning can offer an efficient and effective solution to the armed forces for training. The conclusion drawn by this article is that the use of technology and the integration of this technology into programs and courseware will enhance training opportunities for members of the armed forces. With recent military operations being formed on a multinational or coalition basis, the potential exists for future training to be *globalised*, with e-learning being the platform or enabler to concatenate training internationally. It needs to be a form of “blended learning” because it is acknowledged that the culture that exists in the military – the *esprit de corps* – is attained through personal interaction and teamwork. However, there is a place for e-learning as it offers a mixture of options for the individual, the immediate workplace, and the wider Defence environment. E-learning offers an expanding range of courses and choice of delivery method or access to the training, thus meeting the varying needs and circumstances of serving members. E-learning contributes to empowerment, improved knowledge and competencies thus transferring the ownership of personal and career goals to the individual. The most desirable outcome for the armed forces is a form of *blended learning*, making the

best use of technology, carefully integrating the whole package of training options.

This article is best closed with a quote by Elliott Masie taken from Smith's paper; *Concepts and Principles of Flexible Delivery*; "e-learning is best integrated into core training and development systems rather than being an entity unto itself".<sup>49</sup>

#### NOTES

1. Sloman (2001), p. 1.
2. Lord Robertson established the Defence Training Review on 22 July 1999 to examine all individual training and education, Service and civilian. The DTR began in September 1999 and involved comprehensive consultation within MoD and the Services, including the Reserves. Academic institutions, industry, professional bodies, trade unions, other nations and NATO were also consulted. Work was overseen by a Steering Group chaired by John Spellar MP, the Minister for the Armed Forces, which included senior MoD and Service representation and external advisers from industry and the university sector.
3. *Defence 2000*, p. 69 *Defence 2000: Our Future Defence Force* was tabled in the Federal Parliament [Australia] on 6 December 2000 by the Prime Minister, The Hon John Howard, MP and released publicly by the Minister for Defence, John Moore, the same day. This Defence White Paper announces and explains the Government's decisions about Australia's strategic policy over the next decade.
4. Smith (2002) p. 18.
5. Sloman op. cit., p. 1.
6. DTR op.cit., Introduction.
7. DTR ibid., Information Sheet 10.
8. Ingliss, Ling and Joosten (1999) p. 3.
9. ibid., pp. 4-5.
10. *Defence 2000*, op. cit., p. 108.
11. Sloman op. cit., p. 5.
12. id.
13. id.
14. UK Defence e-Learning Strategy, 2000.
15. Australian Defence Organisation – Defence E-Learning Strategy, January 2002.
16. *Defence 2000* op. cit., p. 108.
17. id.
18. People Plan [draft] The Australian Defence Organisation is developing a People Plan. Section 3 deals with "Develop" - *To develop our people to meet individual and Defence needs*.
19. Sloman op. cit., p. 26. In 1998 the management consultancy McKinsey produced an article that received considerable acclaim in the Human Resource profession. McKinsey argued that the best talent will be harder to find and more difficult to keep – hence the War for Talent.
20. DTR, op. cit., Foreword.
21. Source; Interviews with Mr Gary Crocker, MDA, Flexible Learning Administrator.
22. Source; Interviews with FLTLT K. Matthews, Specialist Course Division, MoD ECDL Management Centre.
23. DTR op. cit., Essay 4.
24. Source; Interview with FLTLT K. Webber, Computer Systems Squadron, RAF Shawbury, January 2002.
25. MDA Brochure (1999) p. 2.
26. ibid., p. 3.
27. DTR op. cit., Exploiting the Information Age, p. 32.
28. ibid., p. 31.
29. MoD E-learning Strategy, Oct 2000.
30. DTR op.cit., Cost Effective Training p. 34.
31. DeLMC – Project Initiation Document [Draft] Dec 2001, p. 4.
32. DTR op.cit., Essay 10.
33. Masie, Techlearn '99.
34. FLT LT K. Webber, January 2002.
35. DTR op.cit., Essay 10.
36. Sloman op. cit., p. 164.
37. DTR op. cit., Foreword.
38. MoD E-Learning Strategy, op. cit., p.15.
39. Sloman, op. cit., p. 164.
40. DoD Directive 1322.8, 6/01/97.
41. DTR op. cit., Essay 10.
42. MAJ A. Greenberry, Training Technology Centre, Training Command – Army. April 2002.
43. ADO Media Release, 1/2/02 Defence Minister opens new Australian-designed shooting range.
44. Source; Directorate of Workforce Planning and Establishments - ADO April 2002.
45. Source; Defence Analytical Agency, MoD UK - April 2002.
46. P.J.Stokes (1999), quoted in Hambrecht report. p.3.
47. *Defence 2000* op. cit., p. 108.
48. Smith op. cit., p. 11.
49. ibid., p. 28.

#### BIBLIOGRAPHY

##### Books

- Baets, Walter; van der Linden, Gert (2000) *The Hybrid Business School: Developing Knowledge Management through Management Learning*. Amsterdam: Prentice Hall.
- Ingliss, Alistair; Ling, Peter; Joosten, Vera (1999) *Delivering Digitally – Managing the Transition to the Knowledge Media*. London: Kogan Page Limited.

- Lockwood, Fred; Gooley, Anne eds. (2001) *Innovation in Open and Distance Learning—Successful development of Online and Web-Based Learning*. London: Kogan Page Limited.
- Rosenberg, Marc (2001) *E-Learning – Strategies for delivering knowledge in the Digital Age*. New York: McGraw Hill.
- Sloman, Martyn (2001) *The e-learning Revolution, from propositions to action*. London: Chartered Institute of Personnel Development.
- Tiffin, John; Rajasingham eds. (1995) *In Search of the Virtual Class – Education in an information Society*. London: Routledge.

### Departmental Releases

- Department of Defense Directive Number 1322.8, 6 Jan 97, *Voluntary Education Programs for Military Personnel*.
- Media Release 35/02 – Defence Minister Opens new Australian-designed shooting range. 01 Feb 02.
- Modernising Defence Training, Report of the Defence Training Review April 2001 Ministry of Defence – United Kingdom.
- Defence 2000 Our Future Defence Force* (Commonwealth of Australia).

### Unpublished Materials

- Defence E-Learning Strategy [Draft - Australia], Jan 02.
- Defence Training Review, Defence E-Learning Strategy [Draft], 31 Oct 00.
- DeLMC e-Learning Portal and LMS Project, Project Initiation Document, Feb 02.
- Development of a MoD-Wide Learning Management System [Draft] 20 Feb 02.
- E-Learning – User Requirement Document [Draft] Feb 02.
- Smith, L. Concepts and Principles of Flexible Delivery, Jan 02.
- The People Plan, Section 3, Develop. [Draft] Australian Defence Organisation, Jan 02.

### Interviews

- Crocker, G. – MDA Flexible Learning Administrator.
- Greenberry, A. MAJ – Technical Based Training—Training Command Australian Army.
- Linsley, M. CMDR – Assistant Director Training Systems Policy, Defence Education and Training Policy, ADO.
- Matthews, K. FLTLT – Specialist Course Division, MoD ECDL Management Centre.
- Shackleton, M. WGCDCR – Defence Training Review Implementation Team, Assistant Director 3 Training and Technology.
- Thomas, A. WGCDCR – Officer Commanding Training

Support Wing, RAF Halton.

Thomas, D. SQLDR – Officer Commanding Computer Based Training Squadron, RAF Halton.

Webber, K. FLTLT – Computer Systems Squadron, RAF Shawbury.

### Internet Sources

- Applying Collaborative and eLearning Tools to Military Distance Education: A Research Framework by Curtis J. Bonk and Robert A. Wisner. A technical report from the United States Army Research Institute for the Behavioral and Social Sciences, [http://php.indiana.edu/~cjbbonk/Dist.Learn%20\(Wisher\).pdf](http://php.indiana.edu/~cjbbonk/Dist.Learn%20(Wisher).pdf) accessed on 23/11/01.
- Are Courses as we know them Dead? <http://www.geteducated.com/vug/nov01/vug1101.htm> accessed on 23/11/01.
- ASTD: Top 14 Things CEOs Need To Know About E-Learning, [http://www.astd.org/CMS/templates/index.html?template\\_id=1](http://www.astd.org/CMS/templates/index.html?template_id=1) accessed on 21/11/01.
- Blending information and instruction - towards an integrated learning solution, <http://www.elearningpost.com/elthemes/blend.asp> accessed on 9/11/01.
- Converting CBT to Online Learning, <http://www.learningcircuits.org/2001/nov2001/geek.h> accessed on 23/11/01.
- Development Times and Costs for eLearning, <http://www.learningcircuits.org/2001/nov2001/geek.html> accessed on 23/11/01.
- Designing and Developing eLearning Modules, <http://www.elearningmag.com/Resource/oe8.asp> accessed on 7/11/01.
- eLearning and Satellite Technology, <http://chronicle.com/free/2001/12/2001121701u.htm> accessed on 9/01/02.
- eLearning - what is its role and who is its provider? <http://ts.mivu.org/default.asp?show=article&id=882> accessed on 23/11/01
- Hambrecht, W.R. Report on corporate e-learning – March 2000, [http://www.wrhambrecht.com/research/elearning/ir/ir\\_explore.pdf](http://www.wrhambrecht.com/research/elearning/ir/ir_explore.pdf) accessed on 23/11/01.
- Information Vs Experience, <http://www.alistapart.com/stories/infoexperience/> accessed on 7/11/01.
- Keeping Students Online - Communication and Feedback are the keys, <http://www.elearningmag.com/resource/oe7.asp> accessed on 7/11/01.
- Learning Objects and Knowledge, <http://www.elearningmag.com/pdf/wpManaging>

- KnowledgewithLearningObjects.pdf accessed on 7/11/01.
- Learning Over Time - A More Natural Model A TechLearn Think Piece by Elliott Masie, The MASIE Center, <http://www.masie.com> accessed on 23/11/01.
- New Army Soldiers: Game Gamers By Noah Shachtman, <http://www.wired.com/news/conflict/0,2100,47931,00.html> accessed on 7/11/01.
- Open Digital Libraries, <http://www.dlib.org/dlib/december01/suleman/12suleman.html> accessed on 9/12/01.
- Online Simulation in Practice, <http://www.csmmonitor.com/2001/1211/p12s1-lehl.html> accessed on 23/11/01.
- Online Discussion - What is it, How to teach with it, <http://www.dartmouth.edu/~webteach/articles/discussion.html> accessed on 23/11/01.
- Quality or Quantity - the quandry for distance education (and eLearning?), <http://www.thejournal.com/magazine/vault/articleprintversion.cfm?aid=3753> accessed on 9/01/02.
- Quality Standards for eLearning - An argument for one set, <http://wbtxpo.com/paper1201.html> accessed on 9/01/02.
- Should universities automatically be going online? <http://education.guardian.co.uk/elearning/comment/0,10577,592148,00.html> accessed on 9/01/02.
- Thornborough, B. General Approaches Respecting the Ongoing Development of The Learning Manager (TLM), [http://www.thelearningmanager.com/DownloadsKnowledge\\_Management.pdf](http://www.thelearningmanager.com/DownloadsKnowledge_Management.pdf) accessed on 9/01/02.
- The Laptop University: A Faculty Perspective George Kontos, <http://www.aace.org/pubs/etr/kontos.cfm> accessed on 21/11/02.
- The Nature of Learning, <http://hci.stanford.edu/cs378/reading/dreyfus-embodiment.htm> accessed on 21 /11/01.
- The Value of Online Degrees, <http://www.collegejournal.com/jobhunting/searchstrategies/2001108-vogt.html> accessed on 9/01/02.
- Training For War In The Classroom Cnet: Soldiers Balance Virtual Life, Death, [http://news.cnet.com/news/0-1006-200-7933400.html?tag=mn\\_hd](http://news.cnet.com/news/0-1006-200-7933400.html?tag=mn_hd) accessed on 9/01/02.
- UK Department of Education and Skills, <http://www.dfes.gov.uk/index.htm> accessed on 9/01/02
- User Education For Km: The Problem We Won't Recognize - from KM World, [http://www.kmworld.com/publications/magazine/index.cfm?action=readarticle&Article\\_ID=1129&Publication\\_ID=58](http://www.kmworld.com/publications/magazine/index.cfm?action=readarticle&Article_ID=1129&Publication_ID=58) accessed on 9/01/02.
- Web Based Instruction, <http://www.edtech.vt.edu/edtech/id/wbi> accessed on 23/11/01.
- What is eLearning? <http://www.internettime.com/itimigroup/forum/faq.htm> accessed on 7/11/01.
- When Considering eLearning Consider Cost, Customisation, Communication and Community, <http://www.webtechniques.com/archives/2002/01/bucqueroux/> accessed on 9/01/02.



*Squadron Leader Jo Elkington joined the RAAF in 1988. Her postings have included: ADMINO No 77 Squadron, and Air Transport Telecommunications Unit. She served as Aide de Camp to the Chief of the Defence Force in 1995. Other postings have included SAFRO in the ADF Recruiting Unit in South Australia, SADMINO 492 Squadron and No 92 Wing, Chief Instructor No 1 Recruit Training Unit and Staff Officer to Head, Defence Personnel Executive. In 2002, Squadron Leader Elkington graduated from Advanced Command and Staff Course No5 Shrivenham, United Kingdom and is currently on exchange with the RAF. She will assume the position of SO1 General Training and Recruiting Policy, RAF in November 2002. Squadron Leader Elkington has predominantly focussed on personnel issues and maintains a personal interest in the "e" world.*

# Rethinking the Personnel-Capability Link<sup>1</sup>

By Nick Jans and David Schmidtchen

*In the current discussion of structural and doctrinal changes that happen to fit comfortably into the era of reduced defense spending, there are few references to the challenges of leadership and leader development that will attend any such [Revolution in Military Affairs]... In fact, any RMA will sooner rather than later come to depend more on the sustainment of fighting spirit than the utilization of cyberspace.*

Lieutenant General Walter F. Ulmer, Jr, soldier and scholar<sup>2</sup>

For the last three decades and more, there has been a notable lack of urgency in Defence Force personnel programs that are concerned with other than the short-term. As a consequence, the Australian Defence Force (ADF) faces the new century hampered by a mid-20th century employment system and a mid-20th century approach to personnel management. The ADF continues to be an exemplar in “little p” personnel management – training, performance appraisal, promotion procedures, personnel administration and the like – but now lags equivalent-sized corporations in the development of competence in “big P” personnel strategy.

Many in the Defence Organisation seem to believe that the current problems with recruitment and retention can be permanently fixed with more efficient recruitment procedures and better financial conditions of service. They could scarcely be more wrong. And it is typical of the ADF that its reaction to long-running personnel problems is to “try harder” at existing personnel management practices, rather than to think through the fundamental reasons for such problems and whether traditional approaches are still relevant in the Information Age.

In this article, we sketch the essentials of a fresh way of thinking about personnel management issues. Although the article is specifically about the Army’s challenge in making a transition to a new cultural form,

much of it relates also to the Navy and the Air Force.

## Cultures in Evolution

All three Services have undergone significant cultural changes in the last few decades.<sup>3</sup> In the century of its existence, for example, the Australian Army’s professional culture has passed through two main recognisable forms and is now in the throes of transformation into a third.

Born officially in 1901, but with roots going back several decades prior to this, Australia’s early military institution was characterised by the *Anzac* culture. The Anzac – the amateur soldier who surprised the world and delighted his compatriots by his “superb insolence, competence, daring and nonchalance”<sup>4</sup> – was the product of a young nation still searching for its identity. The Anzac ethos was seamlessly absorbed into the Second AIF in 1939. Formed as the Cold War became Australia’s strategic reality in the late 1940s, the Australian Regular Army (ARA) saw itself as the New Anzacs. In terms of mateship, cohesion and élan, the ARA drew its essential style from the original Anzac culture. But the Anzacs’ iconoclastic egalitarianism and the “put-a-rifle-into-the-hands-of-an-Aussie-and-he-becomes-a-natural soldier” myth were replaced by a new sense of hierarchy and professionalism forged by the Army’s success in adapting the skills and practices learned on the Western Front and the desert to the battlefields of New Guinea and Asia. The New

Anzacs saw themselves as the “artisans of war”, and came to believe that their considerable professional reputation was derived not *despite* but *because* of their small-scale concept of the battlefield.

In the modern era, however, the maintenance of full-time military forces poses significant resource management challenges to governments. Dealing with the “new challenges” enumerated in the recent Defence White Paper will require the military to broaden its professional perspective and its concept of the professional role. Increasingly, warfighting is just one of a number of competencies that make for success in the politically and sociologically complex defence arena.<sup>5</sup>

In response to these factors, we are witnessing the evolution of a third main version of military professional culture, the *Dual Professional*. The Dual Professional will be required to be all of the things that its predecessors were – and then some. The Dual Professional institution faces the challenge of maintaining its competence in operations, while lifting its performance in modern organisational management, strategy and bureaucracy, and getting greater leverage from its “intellectual capital” in the middle levels of the organisation.

### The Challenge of Cultural Change

The ADF must respond to the challenge of cultural change in a balanced way. It must change, but not so as to degrade the essence of its operational capability and resilience. Whilst the nature of the military profession might have changed and its essential function of warfighting might have become more complex, success on the battlefield (however defined in an era of peacekeeping operations) still relies on the skills and values of the warrior. A military force, moreover, is primarily a social institution. Its strengths are in its professionalism and its “social capital”, and these must be vigorously preserved. Such

qualities may be difficult to define and measure but they are essential to combat power. Military forces exist to fight and to risk being killed, and to sustain such capacity on chaotic and frightening battlefields for sustained periods. They might spend most of their time “at peace”, but they must ensure that they do not thereby blunt their capacity for war. In peacetime, therefore, the Army continues to practice and promote – perhaps even more assiduously – the codes of behaviour that served it in war. They might not make sense to outsiders but they have a compelling logic to those within, so much so that their rationale is seldom discussed.

At the same time, the military must not cling too tightly to “the eternal verities” in formulating a professional development paradigm to fit the new era. Paradoxically, their very strengths and its recent accomplishments at the operational level contain the seeds of weaknesses at the strategic level.

In their cultural transition from the “then” to the “now”, the Services are hampered by a number of pieces of cultural and institutional baggage.

The most obvious of these hindrances to cultural change are the lingering traces of the overt masculinity and exclusivity that comprised the “dark side” of the New Anzac culture. At the informal and almost unconscious level, the New Anzac culture resisted the intrusion of women and kept the Reserve at arm’s length. And, for a variety of reasons, it fails to be an attractive career option to the children of Australia’s post-war non-Anglo immigrants and to Australia’s indigenous population.

These unwanted aspects of the past are still sufficiently strong to continue to be problems. However, they are not as important as other, subtler, issues.

The first of these issues relates to military employment and career systems. Like most other national defence forces facing changes to

mission and national environment, the Australian Defence Force has been slow to react to the need for change in its career development policies and practices. For example, even at its senior career stages, where almost all roles are focussed on bureaucratic leadership and resource management, fitness in terms of the “heroic/warrior leader” mode is still stressed as the chief criterion of professional advancement.<sup>6</sup>

A second major impediment to organisational change is that the task of strategically managing the Australian Defence Organisation is complicated by the differing values and views of the military on the one hand and of civilian executives on the other. The practices of senior officer development noted above are a significant hindrance to the “team building” program launched by the CDF and Secretary three years ago. One consequence of this is a tortuous decision-making process and tangled web of committees that made it difficult for the Defence higher command to deal in a timely manner with issues other than operational crises. No better example exists than the delay in reacting to the signs that recruitment and retention were approaching the crisis that currently exists. It is almost as if many problems have to become crises before they receive appropriate action.

Finally, the challenge lies as much in changing the way that the Australian Defence Organisation thinks about personnel management as it does in developing relevant programs. Ironically, despite the ethos of “concern for people” that pervades the Services, the conventional view of military capability continues to be in terms of weapons systems, force structure and the like. Where “Personnel” receives a mention in such discussions, it is usually in terms of numbers, size, and composition of units and employments. The Army, for example, reflects this in its acronym of “posted”, to designate the effect on capability of Personnel,

Organisation, Support, Training, Establishments and Doctrine. Personnel strategists need a better concept and a more holistic approach to military personnel strategy issues than the POSTED checklist, one that captures the major elements of personnel capability and their interrelations.

### A New Way of Thinking About Personnel and Capability

The way ahead lies in a new version of “C-cubed” thinking, to take its place alongside the well-established expression “C<sup>2</sup>I” used by those responsible for the interrelated effects on capability of battlefield Command, Control, Communications and Intelligence. What we call the “real C-cubed” reflects the relationship between the three main elements of personnel capability: Culture, Career and Climate and their interrelated effects on capability.

Culture, Career and Climate are the “fulcrum points” of a model of capability that includes the intangible factors as well as the concrete (Figure 1). The argument for such a model is as follows.<sup>8</sup>

The three main sets of assets involved in military capability are structural capital, intellectual capital and social capital. The most visible of these is the organisation’s *structural capital*, involving highly tangible assets ranging from *weapons systems* to the *national industrial base*. The development and management of these big-ticket items consumes much time, money and public and political scrutiny. But they are no more important to true capability than the elements in the other two asset sets.

Less visible, but still tangible enough to be identifiable and measurable, is an organisation’s *intellectual capital*: the thinking power it uses in both routine and novel situations. Intellectual capital has always been important to modern military organisations but, in the “Information Age”, it is more important than ever. Modern conflict, with its immense cost and public scrutiny, requires

guile, diplomacy and imagination, so commanders and their staffs have to both be smart and have access to “smart” systems and decision support tools. And the need to be clever applies as much to the operations of base-area headquarters units as it does to those of formations in the field.

A military organisation’s intellectual capital rests on its *career structures and employment systems*, including all the mechanisms associated with recruitment, training, occupational allocation, promotion processes, career management and professional transition. Such structures and systems exert their influence both “upwards” and “downwards”. Building *upwards*, career structures and employment systems are the wellspring of *individual skills and experiences, operational processes and doctrine* and, ultimately, *core organisational competencies* – the intangible assets that allow a force to be deployed, staff its units, operate its weapons, and fight. Building *downwards*, career structures and employment systems have an equally strong influence on the institution’s social capital.<sup>9</sup>

By analogy with structural and intellectual capital, *social capital* refers to features of social organisation such as networks, norms, and social trust: qualities that facilitate coordination and cooperation for mutual benefit and for broadening people’s sense of local identity by developing the “I” into the “we”.<sup>10</sup>

As the least tangible of the three sets, social capital is the most difficult to describe, measure and manage.

The two foundation elements of social capital are *culture* and *climate*. These are related but distinct qualities.<sup>11</sup> Climate, the prevailing mood or spirit in specific units, is in the foreground of members’ perceptions of the organisation; culture, as a quality shaped by factors pertaining to the total organisation, is more in the background. Climate is expressed in behavioural terms by unit social cohesion,

openness of interpersonal communications, teamwork, fostering of innovation and learning, and the like. Units whose climates reflect strong and appropriate cultural values are stimulating places to be: those of the opposite type are often so dull and spiritless that members can’t wait to leave. A unit’s climate influences how well its members perform and how satisfied they are with Service life<sup>12</sup>.

Both culture and climate are reflected in the *psychological contract* between and organisation and its people.<sup>13</sup> The more the culture is founded on supportive and performance-oriented values, and the more clearly such values are expressed in leaders’ behaviour, the clearer will be the implicit obligations of both parties.

Like the “career” element in the intellectual capital block, culture and climate act “upwards” to shape the other elements of social capital. Organisational values, unit spirit and leadership are crucial in determining *people-to-task leverage* (the organisation’s ability to “punch above its weight”); and *stakeholder relationships* (the trust, cohesion and mutual empathy among stakeholders at all levels of the institution, from its most junior members, through its executives and senior officers, to the Government and the Australian people). A strong culture is a major advantage in establishing a clear *brand identity* and the organisational *reputation* that it brings to any inter-organisational transaction and operational activity. (The value of reputation to a military organisation is illustrated by the relative alacrity of the recent US decision to deploy forces to East Timor in 1999, which had much to do with the confidence that the Americans felt in an operation under Australian command.)<sup>14</sup>

Just as importantly, however, the elements of social capital are also shaped “downwards” by the organisation’s career structures and employment systems. Career structures and employment systems affect, in particular, how

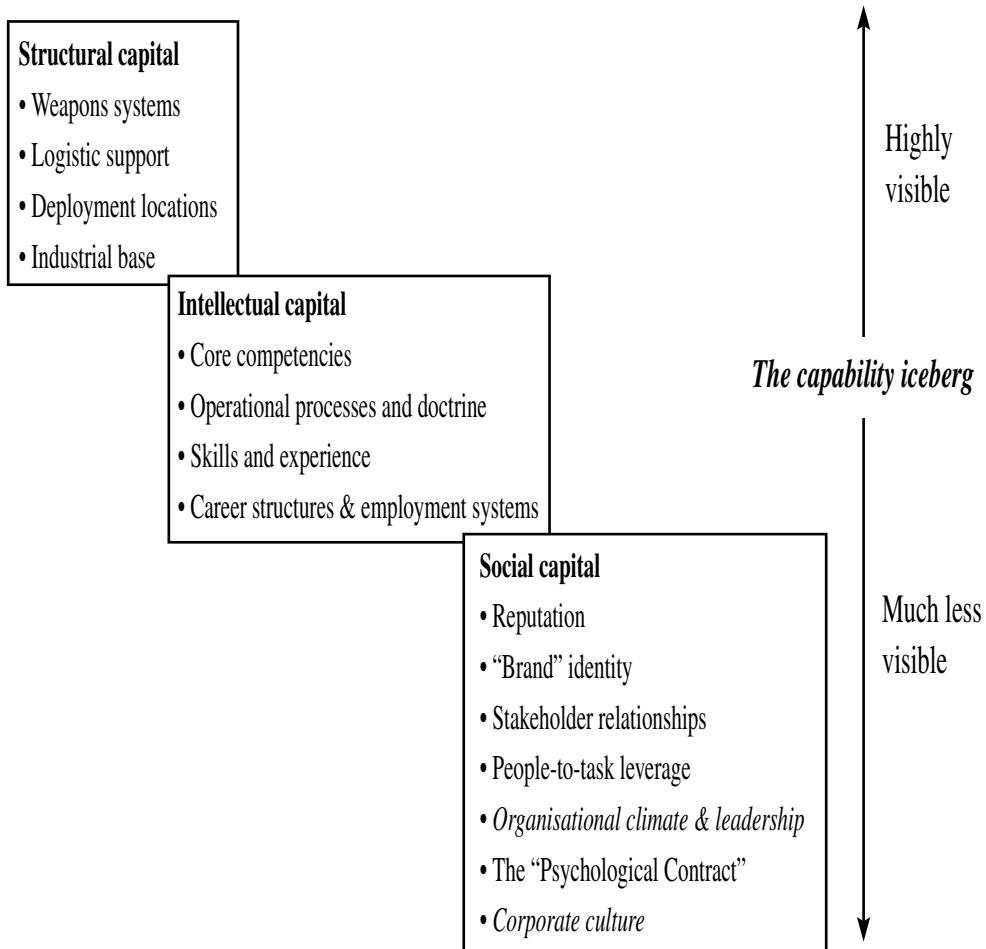


Figure 1 The elements of capability: a good deal more than “POSTED”

stakeholders will relate to each other, and how much leverage the organisation can obtain from its people in any one job. For example, the development of strong and supportive senior leadership relationships owes much to the career policies that determine when and how often members of the “Four Tribes” get the chance to work together for long enough for trust to develop. Similarly, career development policies that have members rotating through a variety of jobs in order to establish an appropriate “promotion profile” may impose a hidden but important brake on their opportunities to make a contribution to

each successive job, especially at higher organisational levels.

To complete the loop, the behaviour imposed by the career system is a powerful force for reshaping or reinforcing cultural values. For example, the professional standards of the Australian military institution are reflected in almost every aspect of their career development programs. The model in Figure 1 can be described in terms of an “iceberg” metaphor. The five-eighths of an iceberg that are below the sea’s surface are the very part that determines the stability of the organic whole. Because they are so visible, the

upper elements of the “capability iceberg” receive disproportionate attention from executives and politicians. But if – as the 2000 White Paper argued it must – Defence leadership practice is to change from a “bureaucratic culture” to a “leadership culture”,<sup>15</sup> senior leaders will need to give at least as much attention to the less visible parts as they do to the more tangible elements.

### Conclusion

As the history of warfare tells us time and again, weapons and infrastructure are no more important to military capability than are the less tangible assets – the social capital – that relate to the spirit, soul and values of the institution.

Social capital, however, is a fragile quality. Damaged equipment can be mended or replaced but high morale and professional values can't be brought up with the rations. Social capital is particularly vulnerable to the ravages of economic rationalist approaches in the pursuit of efficiency. This vulnerability is exacerbated by the institution's murky understanding of just what social capital is and how its elements interrelate.

The whole process by which structural, intellectual and social capital are translated into military capability turns on the interaction of Culture, Career and Climate.

This principle contains an important implication for military leadership at the “organisational strategy” level. The Services are increasingly pressured to “do more with less” while adapting themselves to the complex post-Cold War world. The focus of change up to now has been on efficiency and structural change. This has put great pressure on units and individuals. Many members probably feel that they are working harder than ever before and that they have reached their limits to improve; and they are almost certainly correct on the first point, if not the second. The next logical step in the quest for organisational improvement is to accept what a quarter-of-a-

century's worth of studies have been telling us: that the ADF must find different, innovative and “smarter” ways to manage individual performance, by re-structuring careers and by better managing the “softer” aspects of organisational behaviour.

The goal of capability improvement requires Army leaders to lead strategically by exploiting the association between institutional culture, professional careers and unit organisational climate – “C-cubed” – and their contribution to the “personnel component” of Army capability. The essence of C-cubed thinking is to realise that the maxim “our people are our greatest asset” is only partly true. For any defence force, a more useful way of putting it would be that “our personnel systems are our greatest asset”.

Highly competent in “little p” personnel activities, the ADF has failed to build equivalent capability in “big P” strategic issues. Unless it is willing and able to modify its thinking about personnel management in the broadest sense, it will continue to be dogged by organisational performance problems of which recruitment and retention are just the most visible.

### NOTES

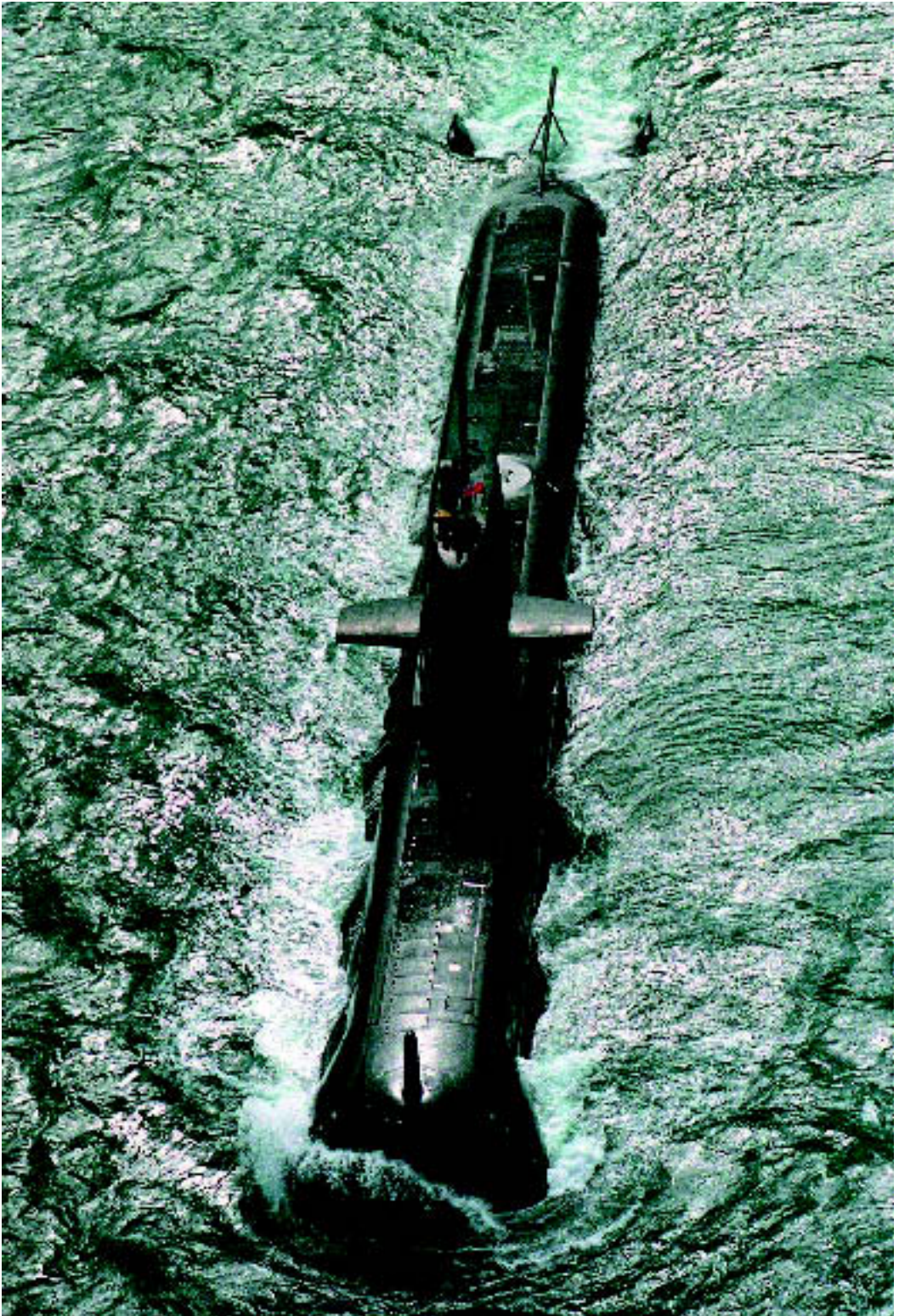
1. This article is drawn from the opening chapter of our recent book, *The real C-cubed: culture, careers and climate and how they affect capability*, by Nick Jans with David Schmidtchen (Canberra Papers on Strategy and Defence No 143. Strategic and Defence Studies Centre, Australian National University, Canberra, 2002).
2. Walter F. Ulmer, Jr., “Leadership, Managers and Command Climate”, in *Military Leadership: In Pursuit of Excellence* (3rd Ed.) ed. Robert L. Taylor & William E. Rosenbach, Boulder CO: Westview Press, 1996, 196–203, p. 199.
3. For a full discussion, see *The real C-cubed*, Chapters 3 to 5.
4. L.L. Robson, *The First AIF: A Study of its Recruitment*, Melbourne University Press, Carlton, 1982: 2–3.
5. See, for example, John Downey, *Management in the Armed Forces*, London: McGraw-Hill,

- 1977; Ray Funnell, "The Professional Military Officer in Australia", *Defence Force Journal* July/August 1980, pp. 23-29; and Nick Jans, "Options for ADF human resource management: part of the solution or part of the problem?" in *Maintaining the Strategic Edge: The Defence of Australia in 2015*, ed. Des Ball, Canberra Papers on Strategy and Defence No 133, Strategic & Defence Studies Centre, Australian National University, 2000, pp. 381-406.
6. Nick Jans, "Rich Organisation, Poor Organisation: Defence Performance and Military Leadership", *Australian Defence Force Journal*, No. 142, May/June, 2000 pp. 5-10.
  7. For a full discussion, see *The real C-cubed*, Chapter 8.
  8. *ibid.*, Chapter 1.
  9. *ibid.*, Chapter 6.
  10. Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton, Princeton University Press, 1993.
  11. Edgar Schein, "Sense and nonsense about culture and climate", in *Handbook of Organizational Culture and Climate*, ed. Neal M. Ashkanasy, Celeste P. M. Wilderom and Mark F. Peterson, Thousand Oaks, CA: Sage Publications, 2000, xxiii-xxx; Benjamin Schneider, David Bowen, Mark Ehrhart and Karen Holcombe, "The climate for service: evolution of a construct", in *Ashkanasy, Wilderom and Peterson*, op. cit., pp. 21-36.
  12. For a full discussion, see *The real C-cubed*, Chapter 7.
  13. Nick Jans, "Options for ADF human resource management: part of the solution or part of the problem?" in *Maintaining the Strategic Edge: The Defence of Australia in 2015*, ed. Des Ball Canberra Papers on Strategy and Defence No 133, Strategic & Defence Studies Centre, Australian National University, 2000, pp. 381-406; David Schmidtchen, "Rethinking the Psychological Contract Between the Army and its People", *Australian Defence Force Journal*, July/August, 1999, pp. 7-10.
  14. Eric Schwartz, "A reminder that friends in deed are friends indeed", *The Sydney Morning Herald*, 24 July 2001. (Mr. Schwartz was special assistant to the President and senior director for multilateral and humanitarian affairs in the Clinton administration, who managed the US response to the East Timor crisis.)
  15. Commonwealth of Australia, *Defence 2000: Our Future Defence Force* (The White Paper, 2000).



*Nick Jans, PhD, is a Principal of Sigma Consultancy, a firm that specialises in personnel strategy and research. He served in the Australian Regular Army from 1961 to 1985 and is currently a brigadier in the Reserve, most recently chairing Project OPERA (the Officer Professional Effectiveness Review for the Army).*

*LTCOL David Schmidtchen, PhD, joined the Australian Army in 1989 as a military psychologist. Promoted to Lieutenant Colonel in 2001, he is currently Chief of Staff of the Action Plan for People Team. In 2000 the Chief of Army awarded him a commendation for contributions to strategic human resource planning in the Army.*



*Collins Class Submarine.*

# Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?

By Major Mark O'Neill, RAE

*The comparative advantage that now counts is the application of knowledge.*

Peter Drucker<sup>1</sup>

*History contains many examples of nations paying a high price for incorrectly identifying the true politico-military nature of a situation. The kingdoms of Asia Minor did not recognise the capability embodied by the Mongol nation under Genghis Khan, and paid with the sacking of their cities and the enslavement of their people. During the 1930s Europe ignored the reality of the Nazi rearmament of Germany, and subsequently suffered blitzkrieg and occupation. After the Second World War, France and Portugal failed to appreciate the will and ability of the indigenes seeking independence in their colonies. The colonial powers then endured costly campaigns against independence movements and ignominious withdrawal. A constant in all these examples is the adherence of each nation's elite to a paradigmatic view that re-emphasised established positions in regard to capability assessments, rather than conducting accurate contemporary analysis of the situation confronting them. The consistency demonstrated in recent Australian defence policy suggests that such a paradigmatic approach is a feature of Australian planning.<sup>2</sup> An alternative assessment of regional capabilities will better inform Australian capability planning.*

The article examines whether Australia needs to develop state-of-the-art capabilities to retain a comparative advantage over countries in the region. The article explores what *Defending Australia 1994 (DA 94)*, *Australia Strategic Policy 1997 (ASP 97)* and *Defence 2000 (D2000)* detail as concerns. These are analysed and it will be demonstrated that the premises used for planning capability development are flawed. The utility of current thinking regarding capability is considered and evaluated in terms of risk. Finally, an alternative strategy for the management of Australian defence capability is proposed that will recognise the importance of knowledge in the maintenance of a capability edge.

## Is the Capability Edge Being Eroded?

There is no doubt that the last 20 years have seen rapid growth in the sophistication, quantity and quality of military equipment held

by nations within the Asia Pacific region. *D2000* attributes this growth to four factors: economic growth, skills development, changing strategic perceptions and access to technology.<sup>3</sup> Concern regarding the potential developments arising from these factors was first identified in *DA94* and subsequently re-iterated in *ASP 97*. The particular areas of development that give rise to the most serious concerns regarding erosion of Australia's capability edge are explicitly identified in *D2000*. These include acquisition of aircraft with beyond visual range capability (BVR), purchase of Airborne Early Warning and Control (AEW&C) systems, submarines, anti-ship missiles and "sophisticated" strike and land forces. The incremental increase in quantities of equipment noted in the various policy papers has been widely reported and is incontrovertible. However, the analysis of what these increases

might mean for Australia's capability edge remains highly questionable.

A contradiction is evident in Australian defence analysis of what the increases in weapons system quantity and sophistication in the region mean. In 1994 Australian defence planners noted that "Defence equipment embodies the most advanced technologies, and may take decades to acquire and bring into service"<sup>4</sup> and "...the skills to operate modern weapons also may take decades to develop."<sup>5</sup> Perversely, the same report noted that the mere acquisition and operation of such systems "raised the level of capability in the region."<sup>6</sup> A mere six years after *DA94* detailed the need for decades of development in the region before a viable capability is attained, *D2000* expressed concern regarding capability development in the region. The demonstrated contradictory nature of Defence's organisational position regarding the implications of acquisition versus capability clearly suggests a lack of rigorous analysis. Further examination of this issue is merited to determine whether Australia's capability edge is in fact being eroded.

It is clear that possession of an inventory of technologically capable weapons systems does not directly equate to capability. The Iran – Iraq War of the 1980s saw both sides equipped with technologically competent systems that were not used to even a small percentage of their actual potential. A lack of proficiency in using such systems; arising from poor doctrine, lack of professional mastery in their use and leadership culture issues, saw such systems used relatively ineptly in a manner reminiscent of the Western Front during the First World War. Whilst the death toll in the conflict was relatively high, it was almost certainly nowhere near as high as it might have been. Similarly, the eventual stalemate that ended the conflict may not have arisen had one side being able to lever an advantage from its technologically advanced systems. The 1991 Gulf War and the relative ease with which the

Iraqi Army was beaten is further illustrative of the fact that possession of systems does not guarantee useful capability. These examples are useful to consider against Australia's regional context.

The defence analyst, Joon Num Mak, describes how the new weapons systems bought by ASEAN nations have been acquired "...with little attention paid to the 'changes in military culture that are required to handle different concepts of war'".<sup>7</sup> This suggests a similar result to that described in the previous paragraph, where those nations may well be unable to realise the potential capability of their purchases. Australian defence planners have also addressed this issue: "...the development of these capabilities would need many complex new operational and support skills, and the establishment of new command structures and expertise."<sup>8</sup> Other reasons that are offered for ASEAN nations acquiring such systems suggest a clear lack of intent to develop any offensive capability. The reasons are invariably defensive or economic in nature, such as the replacement of obsolescent equipment or developing a previously non-existent capability to operate within and defend national waters.<sup>9</sup> Mak suggests that "...the acquisition of military technology, industrial know-how, offsets and even weapons systems was seen as important for a country's industrialisation program and its economic progress".<sup>10</sup> In some cases the purchases have been ascribed to the benign concept of a desire to increase national prestige. It is difficult to imagine a threat to Australia's capability edge arising from purchases that will not realise their potential due to a lack of offensive intent, adequate doctrine or the necessary military culture for their effective employment. Whilst these issues can clearly change with time it is important to remember that *D2000* and the other policy paper neither anticipate this or suggest that it is likely. This raises the question of what risks

are being created by planning that anticipates a capability threat that does not exist.

### The Risks Arising from Current Capability Planning

The first significant risk arising from the current capability planning being informed by a potentially erroneous capability threat assessment relates to cost. The purchases anticipated in *D2000* that address the perceived threat to our Australia's capability edge are extremely expensive pieces of equipment. They include the replacement for the F/A -18 and F-111 aircraft, purchase of major surface combatant ships for the Navy in the form of air-defence capable ships, continuation of the upgrade of the Collins class submarine and purchase of AEW&C aircraft. These and other planned purchases, combined with the almost certain continuation of increases in personnel operating costs, are certain to place pressure on a future defence budget that *D2000* commits to not rising above the current 1.9 *per cent* of GDP. Analysts have suggested that protection of the budget will be the critical element in Australia's future security as the ADF faces these expenses.<sup>11</sup> Failure to achieve the necessary funding for the capabilities identified in the current plan will almost certainly be to the detriment of other defence aspects such as readiness. Whilst the risk associated with funding the *D2000* capability plan is significant, equally significant is the risk it creates for Australia within the Asia Pacific region.

It has been suggested that the primary threat to their security identified by regional countries is China.<sup>12</sup> It has not been established that any of them perceive Australia as threatening. It has also been established that the recent trend towards modernisation of defence equipment within the Asia Pacific is not occurring with the intent of threatening Australia. The purchase of some of the capabilities identified in *D2000* runs the risk of creating a perception of threat in regional

countries where none presently exists. If such a threat perception develops it could conceivably lead to countries responding by seeking defence capability development to match that of Australia. Such a situation clearly risks the creation of a regional arms race between Australia and others. This could destabilise the region and, given the budgetary pressures previously outlined, be highly prejudicial to Australia's defence. It is in the event of regional stability and the potential emergence of a number of potential threat scenarios that the current capability development might realise another significant risk.

The war on terrorism arising from the September 11 attacks on the United States has increased the realisation of the potential threat posed by an asymmetric attack. Other recent developments such as globalisation and the electronic interconnectivity of nations caused by the rise of the "Information Age" present other forums within which threats might develop. It has been suggested that the latter two developments could lead to geo-economic threats to security overtaking geo-political ones in likelihood and potential impact.<sup>13</sup> Furthermore, the possibility now exists that the expertise, and intent, to conduct an attack could rest in a corporate body rather than a "traditional" military force.<sup>14</sup> The majority of capability priorities identified in *D2000* will do very little to counter these increasingly plausible threats. Strike aircraft have no utility whatsoever against a cyber attack. Similarly, if a belligerent is a corporate body residing in a foreign country there is little an air warfare capable surface combatant can do to assist. The clear risk associated with the current weighting of the capability development planning is the opportunity cost to defence measures against highly plausible forms of threat.

In summary, the risk associated with the capability plan detailed in *D2000* has changed little from that foreshadowed by Graham Cheeseman's criticism of the previous White

Paper. "They [the Government] are seeking to put in place a high-technology military structure which is increasingly irrelevant, potentially counterproductive and cannot be sustained over the longer term."<sup>15</sup> In order to avoid this situation it is necessary to develop another policy to inform capability planning.

#### "Knowledge Systems" Capability Planning

Any new approach to capability planning should clearly avoid the risks associated with the *D2000* plan if it is to have utility. Capability planning based on utilising a "knowledge systems" approach would achieve this. The proposal of this new approach is not intended to be proscriptive in regard to development of specific new capabilities. Rather, it will provide an outline of the principles behind a capability planning strategy that could provide security for the Australian nation. It would achieve this through the provision of adequate and cost effective capabilities that take advantage of Australia's innate strengths – its educated population, acknowledged ability in training and capacity for innovation. The level of capability acquired should also be informed by the true nature of any threat likely to develop within Australia's region.

The first principle of the proposed new capability planning is that considerable effort should be put into using, more effectively, the comparatively excellent educational standards of the Australian population. This would see an investment in Australians developing state-of-the-art doctrine, leadership, superior military culture and training systems to get maximum leverage (and hence more effective capability) out of the given performance envelopes of platforms and weapons operated by the ADF. Such an investment would use the intellectual capital that Australia possesses in abundance rather than the fiscal capital that the defence budget is constrained by. It suggests the need for further development of Defence linkages with the Australian technical and higher

education systems, increased emphasis on the role of the DSTO and continual review, assessment and adoption of military doctrinal "best practice". The use of this principle will allow development of an edge that cannot be readily purchased by other forces within the region in the manner that equipment can be. This principle is inextricably linked to the second.

The second principle requires acceptance of the fact that Australia should not attempt to seek equipment performance overmatch at the level of technical ability. It requires technical parity with forces in the region, recognising that if this is achieved the superior "knowing" of ADF personnel and processes derived from the first principle stated above, will deliver an appropriate capability edge. This principle does not suggest that new equipment will not be required. It remains cognisant of perceived levels of conventional threat. Accordingly, it insists that when equipment is purchased the specifications sought are commensurate with regional threat, and not exponentially higher. Historical examples of forces that achieved victories when the technical ability of both sides' equipment was relatively evenly matched are the Israelis in the Six Day War and the British during the Falkland's War. In both examples the key discriminator was the "knowing" ability of the winning force. A key advantage accruing from adoption of this principle is the potential to free up funds from the acquisition of expensive equipment required to achieve technical overmatch. This will allow expenditure on a more diverse range of capabilities for the ADF to meet the asymmetric and other emerging threats identified.

#### Conclusion

The purchase of advanced military equipment by countries in Australia's region does not directly equate to the development of a capability edge over Australia. The significant risk for Australian defence planners

is to accept the paradigmatic view that such purchases would be best countered by Australia purchasing even more advanced equipment. It has been demonstrated that such an approach would be counterproductive.

The aim of this article was to examine whether Australia needs to develop state-of-the-art capabilities to retain a comparative advantage within the region. It is concluded that it is essential to abandon the extant strategy of pursuing a capability edge through platform overmatch. A strategy that accepts equipment parity as acceptable in some circumstances and achieves the necessary comparative advantage through “knowledge systems” is required. This strategy will maximise the natural advantage Australia accrues from its highly skilled population and proven innovative ability. Furthermore, the strategy could be implemented without the significant (and highly unlikely) increase in the percentage of GDP allocated to defence required by the current approach.

The most significant aspect of the “knowledge systems” capability strategy is that it will result in an ADF that has utility across the widest possible regional threat spectrum. The current strategy, assuming it could be funded, would at best prove effective against a narrow threat spectrum that has been acknowledged as unlikely to develop. The key risk associated with continuing the policy of capability edge maintenance through equipment overmatch, is the profound functional dislocation of ADF systems in a range of contingencies. This could be catastrophic for Australia. The proposed “knowledge systems” strategy will avoid such a disaster and guarantee that Australia maintains a comparative advantage over other countries in the region.

#### NOTES

1. Cited from Dibb, Paul 1999, “The Relevance of the knowledge edge to Australia” Ball, Desmond (ed.) 1999, “Maintaining The Strategic Edge: The Defence of Australia in 2015”,

- Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, Australian National University, Canberra, p. 141.
2. Department of Defence 1994, *Defending Australia-Defence White Paper 1994*, Australian Government Publishing Service, Canberra; Department of Defence 1997, *Australia’s Strategic Policy*, Directorate of Publishing and Visual Communications, Canberra; Commonwealth of Australia 2000, *Defence 2000 – Our Future Defence Force*, Defence Publishing Service, Canberra.
3. Commonwealth of Australia 2000, op. cit., p. 24, para 3.41.
4. Department of Defence 1994, op. cit., p. 4, para 1.7.
5. Department of Defence 1994, op. cit., p. 4, para 1.8.
6. Department of Defence 1994, op. cit., p. 24, para 4.14.
7. Mak, Joon Num 1999, “The Security Environment in South East Asia” Ball, Desmond (ed), 1999, *Maintaining The Strategic Edge: The Defence of Australia in 2015*, Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, Australian National University, Canberra, p. 107.
8. Department of Defence 1994, op. cit., p. 23, para 4.9.
9. See Bjorn Moller, 1998b, “Defence restructuring in Asia”, Bjorn Moller, (ed.) 1998, *Security, Arms Control and Defence Restructuring in East Asia*, Ashgate Publishing Ltd, Hants, England, p. 5 and pp. 14-15.
10. Mak, op. cit., p. 110.
11. Dr Ross Babbage, 2001, “After the White Paper: Eight Key Challenges that Lie Ahead”, Department of Defence 2001, *Australian Defence Force Journal*, No.147, March/April 2001, p. 14; and O’Connor, Michael 2000, “White Paper 2000: A sceptic’s view”, *Defender*, Vol.17, no.4, Summer 2000-2001, p. 21 & 24.
12. Moller, op. cit., p.14 and Mak, op. cit., p. 107.
13. Graeme Cheeseman, 2001, “The politics of the Defence White Paper: Illuding the Public-Again”, Department of Defence 2001, *Australian Defence Force Journal*, No.147, March/April 2001, pp. 25-7.
14. Martin Van Creveld, 1991, *The Transformation of War*, The Free Press, New York.
15. Graeme Cheeseman, 1992, “An Effective and Affordable Defence for Australia”, Kettle, StJohn and Smith, Gary (eds), 1992, *Threats without Enemies*, Pluto Press, Sydney, p. 294.

## BIBLIOGRAPHY

- Babbage, Dr Ross 2001. "After the White Paper: Eight Key Challenges that Lie Ahead", Department of Defence 2001, *Australian Defence Force Journal*, No.147, March/April 2001, pp. 13-15.
- Ball, Desmond (ed.) 1999. *Maintaining The Strategic Edge: The Defence of Australia in 2015*. Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, Australian National University, Canberra.
- Bonner, Jenelle and Brown, Gary (eds.) 1995. *Security for the 21st Century?*. Australian Defence Studies Centre, University College, Australian Defence Force Academy, Canberra.
- Booth, Ken and Trood, Russell (eds.) 1999. *Strategic Cultures in the Asia-Pacific Region*. Macmillan Press Ltd, Houndmills, Basingstoke, Hampshire and London.
- Brenchley, Fred and Mahher, Michael 2000. "Shock Treatment". *The Bulletin*, 4 July 2000, pp. 34-6.
- Burchill, Scott 1995. "Perspectives on Australian Foreign Policy, 1994". *Australian Journal of International Affairs*, Vol. 49, No.1, May 1995.
- Cheeseman, Graeme 1992. "An Effective and Affordable Defence for Australia". Kettle, StJohn and Smith, Gary (eds), 1992. *Threats without Enemies*. Pluto Press, Sydney, pp. 293 - 313.
- Cheeseman, Graeme 1999. "Australia: the White Experience of Fear and Dependence". Booth, Ken and Trood, Russell (eds.) 1999. *Strategic Cultures in the Asia-Pacific Region*. Macmillan Press Ltd, Houndmills, Basingstoke, Hampshire and London, pp. 273-298.
- Cheeseman, Graeme 2001. "The politics of the Defence White Paper: Illuding the Public-Again". Department of Defence 2001. *Australian Defence Force Journal*, No.147, March/April 2001, pp. 25-7.
- Commonwealth of Australia 2000. *Defence 2000 - Our Future Defence Force*. Defence Publishing Service, Canberra.
- Cosgrove, Peter J. 1996. "Information Age Warfare". Malik, Mohan J. (ed.) 1997. *The Future Battlefield*. Deakin University Press in association with the Directorate of Army Research and Analysis, Geelong, pp. 151-64.
- Deitchman, Seymour J. 1979. *New Technology and Military Power*. Westview Press, Boulder, Colorado.
- Department of Defence 1994. *Defending Australia-Defence White Paper 1994*. Australian Government Publishing Service, Canberra.
- Department of Defence 1997. *Australia's Strategic Policy*. Directorate of Publishing and Visual Communications, Canberra.
- Department of Defence 2001, *Australian Defence Force Journal*, No.147, March/April 2001.
- Dibb, Paul 1999. "The Relevance of the knowledge edge to Australia". Ball, Desmond (ed.) 1999. *Maintaining The Strategic Edge: The Defence of Australia in 2015*. Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, Australian National University, Canberra, pp. 141 -167.
- Garden, Timothy, 1989. *The Technology Trap*, Brassey's Defence Publishers. London.
- Henderson, Gerard 2000. "Will our Defence Dollars be Enough?". *Sydney Morning Herald*, 12 December 2000 cited from <http://www.sydneysins.org.au/121200.htm>, accessed 18 Feb 02.
- Kettle, StJohn and Smith, Gary (eds.) 1992. *Threats without Enemies*. Pluto Press, Sydney.
- Mak, Joon Num, 1998. "International Cooperation in Regional Security: "Non-Interference" and ASEAN Arms Modernization". Moller, Bjorn (ed.) 1998a. *Security, Arms Control and Defence Restructuring in East Asia*. Ashgate Publishing Ltd, Hants, England, pp. 77-92.
- Mak, Joon Num 1999. "The Security Environment in South East Asia". Ball, Desmond (ed), 1999, *Maintaining The Strategic Edge: The Defence of Australia in 2015*. Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, Australian National University, Canberra, pp. 99 -126.
- Moller, Bjorn (ed.) 1998a. *Security, Arms Control and Defence Restructuring in East Asia*. Ashgate Publishing Ltd, Hants, England.
- Moller, Bjorn 1998b. "Defence restructuring in Asia". Moller, Bjorn (ed.) 1998. *Security, Arms Control and Defence Restructuring in East Asia*. Ashgate Publishing Ltd, Hants, England, pp. 1-36.
- O'Connor, Michael 2000. "White Paper 2000: A sceptic's view". *Defender*, Vol 17, no 4. Summer 2000-2001, pp. 21-26.
- Shukman, David 1996. *Tomorrow's War. The Threat of High-Technology Weapons*. Harcourt Brace and Company, New York.
- Stix, G 1995. "Fighting Future Wars". *Scientific America*, Vol 273, no. 6, 1995, pp. 92-8.
- Trood, Russell 1995. "Strategic Assessment". Bonner, Jenelle and Brown, Gary (eds.) 1995. *Security for the 21st Century?* Australian Defence Studies Centre, University College, Australian Defence Force Academy, Canberra, pp. 29-36.
- Van Creveld, Martin 1991. *The Transformation of War*. The Free Press, New York.



Major Mark O'Neill is a member of the Royal Australian Engineer Corps. He has had appointments in Corps Regimental, Training, Command and Operational postings as well as non-corps staff appointments in the Operations stream. He is currently a student at the Australian Command and Staff College, Weston Creek.

# Korean Operations 3RAR

## Raid on John 227 - 25 January 1952

By Lieutenant Colonel M.B. Pears (Retd)

*Occasionally in the midst of battle certain operations stand out as epics of individual heroism and battle skill. Such an event was the 12 Platoon raid on the enemy positions on 227 and west of it. It was a night attack supported by elements of C Company. The raid failed to meet its objectives but in all other ways it was a resounding military success, an example of soldierly skill, mateship and flexibility in the face of overwhelming enemy strength. The soldiers were magnificent.*

### AUSTRALIAN TROOPS IN SAVAGE FIGHT

*Adelaide Officer leads Hill Top Advance. Australian Associated Express. Tokyo, February 1.*

*In a savage counter-attack in the Korean Western Front, Chinese troops killed seven and wounded five of a small band of Australians who had captured a vital peak top. Four other Australians were slightly wounded.*

*A platoon of the 3rd Battalion, Royal Australian Regiment, which took part in the fighting, was led by Lt. Robin Hone of Adelaide.*

*In the action an Australian stretcher-bearer gave his life in a vain attempt to recover the body of one of his mates...*

*The Australian plan was to put a covering platoon on the peak top while another dug an outpost on it.*

*The Allied commanders wanted the outpost there to warn against any Chinese build up.*

*If the Chinese counter-attacked only lightly the Australians were to fight them off.*

*If the Chinese made a mass counter-attack the Australians were to withdraw.*

*For some nights artillery softened up the area. At the same time the guns kept the rest of the front alive to mask the commander's intentions.*

*At 7:30 pm a platoon of the 3rd Battalion, Royal Australian Regiment, led by Lt Robin Hone, began its advance up the 350 yard stretch of steep ridgeline from the most forward of Australian positions.*

*The platoon had little opposition but a lot of bad luck.*

*On the way up it skirmished with a handful of Chinese.*

*Then as the leading Australians neared the top, a lone Chinese burp-gunner killed three.*

*Lt Hone's platoon was in possession of the peak top by 7:30 pm.*

*Within an hour the Chinese began reacting, but a concentration of more than 100 Allied guns broke up their first counter-attack.*

*The position appeared secure, but fierce fighting occurred when the Chinese attacked again.*

(Editor's note: there are a number of inaccuracies and deletions in this newspaper report.)

The Adelaide Advertiser 2 February 1952

Thus was reported what was arguably the most significant, daring and courageous platoon raid since *Commando*.<sup>1</sup> Unfortunately

little has been recorded in the War History. Justifiably proud of its performance during this operation is 12 Platoon D Company.

### DOG OUTPOST (C Company 7 and 9 Platoons.)

After a period in reserve over Christmas, (following *Commando* and the counter offensives of November) 7 Platoon C Company 3RAR took up a position with 9 Platoon, Bushy Pembroke, on the right flank of the battalion and the Division alongside the US 3rd Rock of the Marne Division. Lieutenant Bob Marshall was the liaison officer for the Americans and I was the Australian.

At the intersection of the 3RAR/divisional boundary and the frontline there was a small pimple overlooked by the western flanks of 355 and the feature 227 which was the first of a series of features called John (227), Luke, Mark and Matthew running to the west from 355. These were the famous “apostles” which formed a ridgeline running east towards 355. Major “Blanc” White another outstanding officer from my Duntroon days was our new company commander taking over from Jack Gerke. He was located on a feature to the rear overlooking our outpost.

Platoon Company 7 and Platoon Company 9 were located together on this small knoll, (aptly named Dog outpost because it had very few redeeming features) under the shadow and within a stone’s throw of the enemy on “John” OP (227). It was basically an outpost position to protect the approaches to our main battalion locations and to provide a patrol gate into no-man’s-land. In reserve was 8 Platoon behind us on the slopes of 355 protecting the resupply line.

The topographical layout was a tactical nightmare forced on the battalion by circumstances; there was too much space between companies (unable to support each other with small arms fire) and not enough men. The outpost on Dog was a reluctant answer to a difficult tactical layout. Artillery and mortar supporting fire could only cover the dead ground, to the enemy’s rear.

Everyone was uneasy about the dispositions but no one more than we were. There didn’t seem to be a better answer whilst

the enemy occupied the apostles. Platoons 7 and 9 comforted each other, as did Bushy and I. We were a bit punch drunk at the time but we took most things in our stride. Most of the men had been through *Commando* although there was quite a sprinkling of new reinforcements.

A lot went through our minds in this exposed position but we had adopted a fatalistic approach to the danger. It was almost a mood of “d  j   vu”. The men were not foolhardy or foolish just accepting. From a battle point of view, after some six months of vigorous activity interspersed with some rest we had reached our “second wind”. Only three weeks before this in another position the Chinese had infiltrated to our wire unnoticed and placed banners and Christmas presents inside our perimeter to greet us at first light. Our sentries had not seen them. We awoke to see “Merry Christmas from the Peoples Republic” and numerous uncomplimentary posters of President Harry Truman and his “fat capitalist pig mates.” Previously we had been through a difficult time post-*Commando*. But this time we had lost the terror of the initial engagement. We were more seasoned and battle hardened. There was not one real whinge or complaint from the soldiers. They seemed proud of the difficult task thrust upon them. Six months of mateship had stood up to the test.

Our position was overlooked by the enemy and unsupported by our own battalion small arms. We were enfiladed to enemy fire from both flanks. The nearest enemy trench was about twenty yards from us. The Observation Post on John (227) was manned by day and at night by a sniper or two.

We had some sort of unholy truce with the enemy. They left us alone and we left them alone except when battalion patrols (always at night) passed through the wire. The position was virtually a “patrol gate” for our patrols forward, I gather the enemy was happy to leave us there and live with it.

We made no attempt at concealment; it was simply not possible as the enemy on John looked down on us. It was nervous also for our re-supply, departing patrols and visitors, as they had to walk fully exposed over a long distance to reach us.

It was, altogether, a “dog” of a post. The trench latrines were in full view of the enemy and they permitted us use of them provided we waved paper in the air as we left our trenches. Under the circumstances most of our activity both colonic and digestive was at night. Only once was the truce broken without cause. Some enthusiastic Chinese hero on the day shift on John shot off one of our men’s nose whilst he was reading outside his bunker. He was later patched up successfully in Australia.

The platoon went berserk at this breach of the truce and we poured small arms and fire support onto the Chinese position, some standing and hurling abuse as well as shots. I lost my cool and was nearly gunned down for my efforts. For a short while the enemy returned the fire (perhaps expecting an assault?) but after a while it all calmed down. The pure frenzy of our response must have made them think, as they did not snipe again.

In retrospect I suppose Bushy and I and the platoons were all a bit troppo at the time. I certainly would not have been happy there without Bushy and 9 Platoon who shared the strain.

There was a deal of irrational behaviour. Unnecessary “stand tos”, loose grenade throwing and a few shots in the bunkers at night when the rats came out. It was all a bit of bravado really. You had to be a bit “mad” to survive. However both platoons could not have been in better shape. Under these stressful conditions the soldiers’ morale was high.

During this time at our new location, 27 December 1951 up to the raid on 25 January 1952, the brigade and battalion were considering ways to protect these forward platoons and gain the high features forward. John 227 and the ridgeline running to the east

(the Apostles) were the keys to the problem. I suppose it was inevitable that the battalion had to take a shot at it. In July 1952, Operation *Blaze* (a larger operation), 1 RAR, again had a go also with the same disappointing results.

If the features could be taken it would protect 355 and our divisional front and make 3RAR a lot more comfortable. (Again, it would have to be occupied by a strong force to hold it and hopefully brigade was arranging for this. It would probably have been “shades of the 317 counter-attack”).

During the November counter offensives the KSLI (Kings Shropshire Light Infantry) had occupied and fought over the apostles. They were consequently well dug, mined and riddled with wire. It can be presumed that the Chinese now valued them highly and deeply bunkered and tunnelled the defences. The peace process demanded that they hold the present ground. They did not want a repeat of the October offensives.

On the night 25/26 January 1952, soon before I was to be re-posted to the mortars, we were to secure John as a base for a platoon raid forward by Tiny Hone’s Platoon from another company (D Company).

In preparation we had made a reconnaissance of the area the night before, to ascertain enemy strengths. The commanding officer had asked me to lead the patrol personally to verify some assumptions about enemy strength. To maintain secrecy I took two, or three along but it was to no avail. There was bright moonlight and the ground was covered in crisp white snow. There was no cover and it was impossible to conceal our movements along the northern/eastern slopes. Noise, as the ice cracked was inevitable. Every step sounded like a horse chewing wheat. We stood out like udders on a bull. Fortunately for us there was no reaction to our probe.

In retrospect they probably saw us and took little notice of those crazy Australians crawling around in the snow instead of sleeping peacefully under ground in tunnels.

They had already seen many patrols pass this way. My experience had been that the Chinese were always tactically patient, preferring to react rather than initiate. They were good counter-punchers.

I reported personally to the commanding officer that there was no reaction from the enemy OP on John and that the feature did not appear to be strongly occupied. We foresaw little difficulty in occupying it the next night (as was the case) and reported accordingly. I was right and I was wrong. The OP on "John" was clear but in position behind at Luke, Mark and Matthew, was the main defensive line.

At the time I had in my mind that the commanding officer was not particularly keen on the operation but he was being pressed from above? What would we achieve? If it was heavily occupied we would get a bloody nose; if it wasn't we would have to battle to hold it. Another bloody nose would not be welcome. The Armistice was not far off. No doubt there was a good divisional reason. As I learnt a little more about soldiering I was to realise that if you don't patrol and raid extensively from a defensive position you leave yourself open to surprise and ultimate defeat.

The raid was a "hard" decision but necessary for the security of the battalion. (Hard decisions are part and parcel of infantry life.)

Firm plans were made to attack "the Apostles" and after last light the next night, elements of 7 Platoon snaked up the mountain, following the empty trench lines, to occupy the observation post on the top of 227 "John". A re-supply area, for consolidation and preparation by digging parties on reaching the objective, was set up below by D Company with extensive log and work parties to reinforce the objectives. Our CSM Arthur Stanley had this well under control (as usual). We knew the area well, from frequent incursions, but the risk of booby traps and enemy patrols was always there.

On arrival the observation post was empty but showed signs of recent occupation. We established the firm base in the OP bunker without opposition and called Tiny's platoon forward. All went well but when they reached the next knoll on "Luke", all Hell broke loose. The enemy was "standing to", apparently reinforced from "Mark" and "Matthew" and waiting, ready to repel the attack. Opposition was strong and casualties high. Our firm base and re-supply was being mortared and shelled heavily with accurate registration and a number were wounded and killed in action. Our bunker suffered a direct hit and collapsed (some of us were partially buried) and there were further casualties. In the meantime heavy casualties were flowing back from "Tiny's" platoon. A temporary Casualty Clearing Station was set up inside and outside the main bunker.

I knew little of the progress of the battle forward but gathered it was getting grim.

#### The Raid by 12 Platoon

The brigade war diary subsequently reported events as follows:

25 January 52

*1630 hrs. 3RAR to capture pinnacle of 227 tonight starting at 1900 hrs. Platoon to form a screen west of pinnacle for follow up by digging party to establish bunkers before 1st light 26 January.*

*1825 hrs. Searchlight shining directly onto forward slope of 227.*

*1930 hrs. 3RAR said all going well. Leasing patrol and standing patrol engaged enemy in firefight. One wounded so far.*

*2020 hrs. 3RAR cleared pinnacle 227 - now moving west. Enemy mortar fire and on outpost. Leading platoon out of touch as wireless blown out. Casualties so far 3 KIA 2 wounded.*

*2055 hrs. 3RAR receiving heavy mortar and MMG fire from north of 227 and small arms fire west of 227. Possible counter attack forming up.*

2150 hrs. Enemy mortar, MMG and tracer still coming back onto pinnacle.

2152 hrs. Div report intercept from enemy wireless "position is occupied by enemy platoon we are going to counter attack".

2210 hrs. 3RAR – enemy fire intermittent and much quieter.

2200 hrs. Enemy F.U.P. for counter attack being engaged by Regt guns. 3RAR screen now at 157190.

2245 hrs. 15 Regt on right of 3RAR had evacuated 7x 3RAR wounded.

2245 hrs. 3RAR says all quiet, working parties under way.

2256 hrs. Div intercept "We found enemy platoon, they came from Nandong. Our troops will go forward at once when we hear your artillery fire."

2258 hrs. Div arty fire engaging enemy mortars and MMG's.

26 January 1952.

0250 hrs. 3RAR said platoon had to withdraw from hill 227 at midnight in the face of strong counter attack. Estimated that 2 enemy companies reached platoon on pinnacle. Attack was supported by heavy MMG and mortar fire. 3RAR casualties 6 killed and 6 wounded.

0545 hrs. 3RAR says A & C companies heavily harassed by enemy MG and small arms fire from 227. 1 more killed. Only 2 enemy known to be killed but many more would have been.

0945 hrs. GOC visited command. GOC said that although 3RAR attack had failed to hold objective, he had learned a great deal ...e.g. importance of ground to enemy, ability to mount a counter attack of battalion size within 4 hours and supported by mortar and MMG's on fixed lines.

1245 hrs. 3RAR total casualties last night 7 killed and 9 wounded. The objective had been taken by about 2015 hrs and by 0015 hrs the counter attack had reached the two platoons having come through heavy

defensive fire. The enemy had attacked from three sides.

SECRET. 3RAR.... At 1915 hrs 12 Platoon of D Company moved through outpost 161191 onto the 227 feature where an unknown enemy were found in bunkers and crawl trenches.

1 enemy in bunker armed with burp gun engaged the platoon as they secured the crest causing 2 killed and 1 wounded. Further enemy engaged the platoon with grenades killing 1. At 0015 hrs platoon received very heavy mortar fire and were counter attacked on SE, West and North West and in one wave towards outpost 1161191 from the north. Friendly platoon ordered to withdraw at 0100 hrs. The situation quietened until 0412 hrs when a patrol departed C Coy perimeter for an attempt to recover bodies was met by LMG fire from 160190 and 227. Estimated that 2 enemy companies took part in counter attack.

Later John Bennett Platoon Sergeant of 12 Platoon D Company (the raiding platoon) summarised his recollections;

At 1830 hrs 25 January Divisional artillery bombarded our objectives and we moved up the spur to the OP on John and passed through Lt Pears firm base which was secured by elements of 7 Platoon. We moved quickly along the spur onto the "Pinnacle" (Luke) our first objective.

On nearing the summit we received heavy fire resulting in the death of the leading section leader. Shortly afterwards when engaging the enemy with grenades on the west side of the feature the second section commander was wounded and evacuated. By 2020 hrs the Pinnacle had been cleared but enemy mortar and small arms fire continued to come from the west.

At this stage the platoon casualties had been 3 killed and 2 wounded. Despite this initial setback with consequent delay things worsened when the wireless was knocked out and the wireless operator killed. The Chinese

reaction to the attack was swift and immediate with heavy mortar and MMG fire coming onto our standing patrol and us from the west of 227. Lt Hone quickly despatched listening parties to positions where it was thought any counter attack would come. One party went forward and down the slope and another west along the ridge. The remaining sections formed a defence along the former KSLI trench, which was some twenty or thirty feet below the summit. This gave the advantage not only of not being silhouetted against the skyline but with the searchlight to the rear of 227 and casting its ghostly light over the terrain it formed a very dark area where the defenders could be seen but we could not.

As indicated by the tracer rounds most of the small arms fire ended closer to or over the summit but it also appeared as if the searchlight was also a prime target for the enemy.

Despite the intensity of the mortar fire most of it fell on the standing patrol or our rear echelons and support positions.

We were in close contact with the enemy and they were loath to bring the fire too close. Unbeknown to the listening posts at the time they had been remarkably lucky since the west side and forward areas had been heavily mined as part of the old KSLI defences. The wire surrounds of the minefield had been destroyed. The other hazards were the many steel stakes protruding through the ground and weapon pits.

At this stage Corporal Stark had been hit in the back with a grenade fragment and in some stage of shock. I took him back to the 7 Platoon OP. Tiny thought he should be accompanied in case he wandered off in his state of shock.

I returned with some extra grenades as "plenty" had been hurled down the west side.

One soldier, who went on to Malaya and Vietnam was an aboriginal Australian, T. "Massa" Clark (who sometimes made it to Corporal level) and as I recall manned the forward listening post with one other and the

platoon's most pessimistic soldier "Private X". He was continually complaining about the cold, the food, the CO and officers generally. He wondered why we should be here at all. He was in fine form this night so I'll always remember Massa for not only his excellence as a field soldier but for his absolute patience in handling Private X.

Enemy mortars, and artillery and our own drop shorts were constant. It was very messy and difficult to retain control. I was wounded (with what Tiny and I thought was a drop short) which hit me as I was jumping out of the trench (just behind Tiny's pit) to locate the forward listening post. The blast blew me a short distance down the slope, permanently losing some hearing and my trousers as I bumped into the hidden steel stakes.

I needed to shout above the din until I located the listening post which was well protected in an old pit but getting anxious as they had seen the rockets falling. They had been pretty cold all night, for, in the main trench we had been able to move around whereas they were very restricted in their own pit. They needed no persuasion to move back to the main trench as enemy activity was still intense.

Bill Bennett was a stretcher-bearer that night and he had recovered one of the casualties (G. Bullock) Georgie was carrying the radio, which didn't help communications much.

Soon after this the enemy fire became sporadic which enabled casualties to be removed but because of the situation the digging and logging parties could not be called forward. At this time our own artillery was engaging enemy positions and probably forming up places with some intensity.

By about 2300 hrs enemy (?) flares soon lit up the sky indicating that a counter attack was soon to come. At this stage a decision was made to withdraw both listening posts to our main position. We had great difficulty in locating the forward listening posts due to the heavy fire, drop shorts and the confusion of

*darkness conditions. It was a perilous time. We were obviously in a great deal of trouble, weakened by casualties and lacking communications to our support.*

*Things were getting worse with enemy activity increasing and we received a command to fall back. The enemy were obviously deeply entrenched in deep tunnels and bunkers in considerably numbers. It appeared the raid was over. It was still a long way home but we headed for the OP and the spur line back down the ridge to what we thought would be “comparative” safety.*

I suppose my main recollections are:

**(1) Movement to the feature** - I recall being at the OP on John with 7 Platoon when the artillery opened up on the hill in the preliminary bombardment. The guns had opened up on the hill on the two previous nights at the same time probably with the intent of confusing Charlie of our intentions. The searchlight was off during the firing but came on again as soon as the firing stopped. When the firing stopped and with a few seconds or so lapse to ensure no strays came over, Tiny said “GO” and off we raced in single file as planned. I recall there was still some “dust” in the air but the pinnacle (Luke) was clear. The idea was that as soon as we neared the summit the first section (Corporal Clark) would enter the trench and branch right - west - and the second section (Corporal Stark) would go left and around the trench. I was the platoon sergeant and between the end of the second section and head of the third section. The third section was to reinforce either section as required. “Tiny” Hone was located between the end of the first section and before the second section and had with him his wireless operator. Can’t recall if we had any difficulty in racing up the hill as it had been fairly well cleared by the guns. i.e. no obstacles as such other than the slippery surface.

**(2) Orders group** - “Tiny” had been briefed three days before the event. I recall he said that the guns would open up on the feature that

night and at the platoon O group that day the section leaders were informed of the proposed attack. On the day of the attack we moved across the valley at last light and straight to the outpost. In hindsight, it would have helped to practise the planned manoeuvre (on the hill) as it became difficult to control since, once the second section wound around the hill, it ran the risk of colliding with the first section which would also be wrapping around from the west. Thankfully this did not happen. I don’t think the trench wound right around the hill so at some stage the second section would be out of the trench and exposed. Verbal communication plus plenty of swearing would identify friend from foe but it would be “chancy”.

**(3) Difficulty of communications** - We were in fairly close contact with each other so verbal communication was used. This failed with the forward outpost which was out of range and given the noise they were virtually cut off until I pulled them back to the main trench. I only found them by shouting as I had no idea where they had ended up as it was fairly dark despite the searchlight. The loss of the wireless was a major blow and I vaguely remember a runner from 7 Platoon OP coming to “Tiny” and passing on the various orders. This would have been fairly hazardous for the runner given the stuff flying around.

**(4) Courage** - I was thinking of this recently. When you consider the incoming shells, mortars and machine-guns and the noise for most of the time on the hill and consider the age of the diggers most of whom had never been in action before and the loss of close mates, it is remarkable that no one cracked or showed outwards signs of stress. Perhaps the word is stoic! I’m sure we were all scared stiff but at the same time were confident in our own ability and those around us. When the two section leaders were lost and the 2ICs stepped in to fill the gap without fuss it indicates a measure of their training and confidence. There was also the feeling that we were not alone on the hill, the whole battalion

would support us and the CO knew exactly what he was doing. We were also conscious that 7 Platoon was close by if things got really sticky. This was my first action and by training knew I would need to show example however difficult. It was suspected that the non arrival of the digging party in the trench indicated that things were not going according to plan and the loss of wireless communication also made us feel pretty helpless and vulnerable.

“Tiny” was calm throughout, never seeming to be anxious, giving clear orders and instilling confidence in ourselves and in turn inspiring us with his leadership. I don’t ever remember him swearing other than to say “shit” if things were really bad.

**(5) Evacuation of the wounded** - I cannot remember when this happened other than it was fairly soon after things quietened down. Bill Bennett, A Company, was the stretcher bearer allotted to us and he gave to us all. One day the story of these stretcher-bearers may be told. Their courage under fire in exposed positions is legendary. I took Corporal Stark down to 7 Platoon OP which, I think, was before the stretcher bearers arrived for the more badly wounded and dead.

**(6) Withdrawal from the feature** - I was with “Tiny” when the 7 Platoon runner arrived with good news. He immediately withdrew both the listening posts to the main trench where the sections were located facing outwards to the front and west. Once we were all assembled “Tiny” checked each section and gave orders as to how we would head off towards 7 Platoon OP and 7 Platoon Dog outpost position (which appeared less safe than where we were). I cannot recall how we went down the hill other than fast and in order by sections. I did the last check and was the last off the hill (per manual ?). What later concerned me was that two stretcher bearers had lost their lives recovering a body “from 227” I knew for sure that when we left the summit on 227 (Luke) all bodies had been removed so I was pretty upset for some years

until I found out that the body was from the region of the 7 Platoon outpost position.

**(7) Insurmountable odds.** - Thankfully we did not know precisely what was up against us at the time. The incoming fire was close and everywhere but directly on us as evidenced by the tracers. The return fire by our artillery was such that we wondered if anyone could come through it and reach the hill. I don’t think we ever envisaged that we would be wiped out - that happens to others. In hindsight and in view of what happened later in the war 7 Platoon outpost was much more vulnerable. If all else failed we could always withdraw to the rear of the hill whereas the Dog outpost was easily cut off.

John Bennett was one of the many brave soldiers of D Company who managed to turn “defeat into their own victory”.

#### 7 Platoon Base

All of this was unknown to us at the time, communications forward had been destroyed. The flow of wounded was the only source of information. I was on radio direct to the commanding officer who constantly monitored the position, prior to coming forward (I think by this time the D Company communications to him were also out.) I could feel from the tone of his voice that he was deeply concerned at the casualties incurred, the lack of information and the strength of the opposition.

As the situation deteriorated the commanding officer ordered me to abort the operation. Tiny was to withdraw through our firm base and we were to abandon the John OP. I sent the message forward and D Company began to withdraw under pressing enemy contact.

#### The Withdrawal by C Company

The 7 Platoon OP on John managed to hang on and cover Tiny’s withdrawal but the enemy was pressing hard against us and there was much confusion in the dark. It is at these times that the best in men comes out. In the observation post with me was the platoon

ratbag, another “Foreign Legionnaire” and man of mystery. He was always throwing grenades at night to stir up the enemy and making rude and obvious gestures of contempt towards our friendly enemy observing us from John each day. However on this occasion he was left with me to cover our rapid withdrawal down the trench line to the comparative safety of our Dog outpost. It was not the time for general discussion or an interpretation of lawful commands. In the end we both stumbled down together, hastily I might add, one on one, fire and movement.

The aftermath was a sad one, shellfire followed the withdrawal and Arthur Stanley, again in the thick of it was with the stretcher-bearers trying to retrieve the wounded. A stretcher-bearer was killed. A veteran of every company action, it was a sad loss and a shock. Somehow we all thought he was invincible. In many ways this raid was worse than 355 or 317. You had nothing to show for it afterwards.

I have never ceased to wonder at the incredible courage, determination and discipline of the D and C Company soldiers. With many junior leaders killed or wounded in Hone’s forward platoon, a failed objective and enemy pressing strongly against them in a night operation they withdrew without panic and in an orderly fashion supporting each other home. Fortunately the enemy did not follow to the 7 and 9 Platoon Dog outpost.

You would have to experience a failed night operation to understand the utter confusion caused by the change in plans and the lack of communications. I marvel that this was overcome. It was a tribute to the soldiers’ training and morale.

I didn’t have a chance to debrief Tiny on the action nor was there any major report issued. The events in detail were forgotten until the publication of the War History and the receipt of John Bennett’s comments.

From my own point of view and I guess, John Bennett, Tiny Hone, Arthur Stanley and Bushy Pembroke also that raid must have been one of the most outstanding actions since *Commando*. Brilliantly planned and supported as were all Hassett operations, but in this case we were fighting out of our own weight division. The enemy was far too strong and too well entrenched for a platoon raid.

Fortunately the decision to withdraw was made in time to prevent the possible annihilation of both the 12 Platoon and 7 Platoon elements.

Again, we can thank Frank Hassett, the soldier’s General for that.

#### NOTES

1. Operation *Commando* was an Allied attack launched on 3 October 1951 against a Chinese position north of the Imjin River. After five days of heavy fighting the Chinese withdrew. Twenty Australians were killed and 89 were injured.

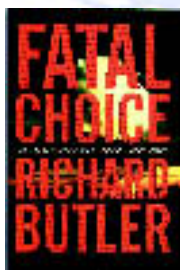


## Reviews

---

**FATAL CHOICE: NUCLEAR WEAPONS AND THE ILLUSION OF MISSILE DEFENCE** by Richard Butler, Allen & Unwin, 2001, 178 pages. \$24.95.

*Reviewed by Wing Commander John Steinbach*



When Bill Hayden appointed Richard Butler as Australia's first ambassador for disarmament, Butler's credentials for the position were impeccable. Although now retired, he remains this country's most knowledgeable observer and most active past operative in the labyrinthine world of arms control where "smoke and mirrors" politics is the rule: recall his efforts as head of the UN Special Commission to disarm Iraq between 1997 and 1999, where Saddam Hussein was not the only source of frustration he encountered. In *Fatal Choice*, Butler brings together two strands of the weapons debate: the future of the Nuclear Non-proliferation Treaty (NPT) and the United States' abrogation of the 1972 Anti-ballistic Missile (ABM) Treaty in its intent under President George W. Bush, to develop a National Missile Defense (NMD) system.

Butler is the NPT's champion of champions. He sees the problem with the NPT, as two-fold: the nuclear "club" members not wanting to surrender their weapons although obliged to do so under the treaty; and those signatories who "cheat" and are developing clandestine weapons, namely the "rogue" states, the "axis of evil" triad. On top of that are nations that never ratified the treaty and have already developed theirs. Butler's thesis is that nations pursue nuclear weapons simply for deterrence, that is, someone else already has them. It's

simple enough: Stalin got them because the US did so, and in turn the UK, France, China, India, Pakistan, etc, followed suit. The nuclear club membership wants to maintain its monopoly and sees the treaty as one means of controlling the ambitions of other countries, yet on the other hand, does not enforce compliance sufficiently and forcefully, as with Iraq. However, no one in the club will admit the NPT to be failing because of the likely and dangerous consequences should the US for example openly declare that it sees its usefulness at an end because that would lead to nuclear arms races elsewhere including space. But that is precisely what the United States wants the world to believe is already happening and offers that as justification for NMD and a move, in practice, away from its NPT obligations. Butler argues that NMD will lead to a reinvigoration of Russian and Chinese weapons development.

In 1998, Donald Rumsfeld reported that the threat posed to the US by missiles carrying weapons of mass destruction (WMD) was "broader, more mature and evolving more rapidly than has been reported by the intelligence community" (an interesting comment given the criticism those agencies are receiving post-11 September), concluding that the US would have little warning of attack, hence NMD. The main culprits again, come from the evil axis. But Butler challenges this logic because the rogues are not about to commit national suicide launching ballistic missiles against the US, leaving an "unambiguous return address". It would be more feasible for any terrorist threat to come via surreptitiously introduced WMDs, bypassing the NMD. Butler thus contends NMD is no solution: ultimately it will not protect the

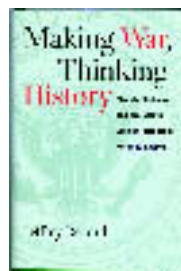
US (or any other state: collateral damage is a given in any nuclear exchange) but rather will lead to proliferation and the end of NTP (and civilization?) as we know it. The end state of the NTP is no more nuclear weapons and Butler's conviction remains that to be the only acceptable result hence he suggests an alternative scenario to NMD and back-sliding on the NTP—more vigorous and enforced compliance of the NTP, with firm and determined leadership for that coming from the US. (In fact Butler believes that the greatest challenge facing American leadership in the post-Cold War era, is to lead ordinary Americans to an understanding that a world in which unilateral action can rule no longer exists.) Realistically, the US would continue research on anti-missile defensive measures, but discuss implementation with relevant states and consider sharing the knowledge with them only if they participate in increased nuclear control measures. That is Butler's side of the debate: Secretary Rumsfeld's can be found in the *Report to Assess the Ballistic Missile Threat to the United States* published by the US Government Printing Office, July 1998. Another worthwhile source of conservative US thinking is the essay by William Schneider "Weapons Proliferation and Missile Defense: The Strategic Case" in *Present Dangers: Crisis and Opportunity in American Foreign and Defense Policy*, edited by Robert Kagan and William Kristol, Encounter Books, 2000. Then there is Helen Caldicott's most recent work, *The New Nuclear Danger: George Bush's Military Industrial Complex*. Take your choice. I found Butler's case well presented, balanced and without hype or exclusivity, a reflection of the basic humanity and humility of the man.

In some ways *Fatal Choice* is already dated, given the direction the Bush administration is taking, including the agreement with President Putin to mothball/dismantle much of the US and Russian nuclear arsenals. Nevertheless as an introduction to and brief history of the machinations of nuclear international policy, it

is an easy read from one of Australia's best known diplomats whose passion for the subject is unequalled. The future of the NPT is something of concern to everyone and while the Australian Government searches for new strategic directions, we must always keep in the back of our minds the thought that the nuclear issue is still here and now.

**MAKING WAR THINKING HISTORY** by Jeffrey Record Naval Institute Press, Maryland, 2002.

*Reviewed by Major J. Cotton*



Jeffrey Record presents us with a detailed and extensive review of US Presidential military decision making from Korea to Kosovo, as influenced by the failure to act against Hitler after the Munich Summit – resulting in Hitler's rise to European domination during WWII – and the humiliating lessons dealt to America by the Vietnam conflict. As a professor in the department of strategy and international security at the USAF war college, Record is well qualified to develop the conclusions he presents in this book which includes discussion on what led to the Truman and Nixon doctrines. Record also moves beyond simply considering the influences of US presidents to that of other important individuals influencing US foreign policy leading to the impact of Kissinger, Weinberger, Powell and Albright.

The book provides a fascinating insight into how US foreign and military policy has shaped the modern world, and the analysis by Record of how presidential psyche has been influenced by Munich and Vietnam is valuable. Although the terrorist attacks against New York and the Pentagon on Sep 11 2001 have significantly affected the psyche of US

military policy, the declaration of an axis of evil and the prosecution of a US-led war against terrorism will not be considered by US military leaders in isolation to the issues represented by Record. In his arguments Record explains how US presidents have used analogies of both Munich and Vietnam to generate public support. For this reason at least this is an important book. It is well written and researched and the conclusions Record steers you to are compelling. A vital read to all military analysts in the current environment.

**THE REAL C-CUBED: CULTURE, CAREERS AND CLIMATE AND HOW THEY AFFECT CAPABILITY** by Nick Jans with David Schmidtchen, 2002, published by Strategic and Defence Studies Centre, ANU, Canberra, 185 pages, \$26.00.

*Reviewed by Lieutenant Colonel Des McNicholas*



It's a rare thing indeed for the Australian Army—any successful Army—to question the fundamental basis of how it goes about the business of soldiering. And rarer still for those questions to be asked in the light of thoughtful insight, practical experience and solid academic research. In *The Real C-Cubed: Culture, Careers and Climate*, Nick Jans and David Schmidtchen have done just that, producing arguably the most important study on military personnel management yet published in Australia, and one that has relevance across the ADF.

Acknowledging that the Army has acquitted itself remarkably well in recent years, Jans and Schmidtchen nevertheless argue persuasively that it faces a personnel crisis arising from a mid 20th century approach to employment and personnel management. The authors quickly dismiss the usual quick recruitment or financial solutions, stressing

instead the importance of the “less-tangible” aspects of personnel management, including the spirit, soul and values of the institution.

Starting from the premise that the Army is being shaped by revolutions in technology, social norms, management and mission, Jans and Schmidtchen—both soldiers with an impressive array of experience and qualifications—identify the clear link between personnel and capability; discuss the complex issue of organisational culture; and look at the critical influence of leadership and organisational climate on the Army's performance.

Building their case for change with a fascinating study of the interaction between the three Service cultures and the Department of Defence—including the unique amalgam of Russell Hill—the authors offer five key policy directions, each of which could play a role in bringing the Army's approach to personnel management up to the unquestionably high standards of the soldiers it serves. Their proposed strategy is a long-term one, but there are many cultural battles to win along the way.

Despite its solid academic basis, *The Real C-Cubed* is a remarkably accessible book that will evoke mixed responses from military professionals. It touches on issues that readers will understand and have strong opinions about, and the authors have not shied away from challenging long-held cultural beliefs. Perhaps just as importantly, they have managed to clearly articulate and substantiate the views expressed informally by many soldiers in recent years.

*The Real C-Cubed: Culture, Careers and Climate* is a major contribution to the personnel management debate in the Australian Army. If anything written in recent years deserves to be required reading for officers and SNCO, then this is it.

**SOUTHEAST ASIA: A MODERN HISTORY** by Nicholas Tarling, Oxford University Press, Melbourne, 2001, 555pp. \$59.95

Reviewed by Wing Commander John Steinbach



Asian studies are under the spotlight following the recent Commonwealth Government decision to not continue financial support for Asian languages in schools. On top of that, a concerned Asian Studies Association has just published a review outlining the drop in the number of students undertaking Asian-related subjects at university level, the decreasing number of Asian subjects, and most importantly the aging of a cohort of specialist that will lead to a diminution of Australia's "Asia knowledge investment". The review goes on to state that Australia's capacity to understand the region and its major trading partners is stagnant or declining when globalisation suggests the opposite should be underway. One indicator of this downturn is that the ADF School of Languages has become the sole provider of a number of East Asian languages at the vocational and tertiary levels in the country, an intriguing fact: while the rest of the community is losing interest, the ADF's stolidly remains. And so it should. ADO members with Asian studies qualifications, or who have been fortunate enough to study an Asian language at ADFLANGS or an Australian university will have been rewarded in discovering the fascinating history, politics, society, culture and religious practices of the countries to Australia's north. And this is the subject matter of this excellent book.

Nicholas Tarling is Emeritus Professor of History at the University of Auckland and as well as editing the two-volume *Cambridge History of Southeast Asia* (1992) has written extensively on the region. Reading the book from cover to cover gives a sense of the

kaleidoscopic dimensions of the many facets that make the study of South-East Asia so compelling. For the general reader, student or defence analyst needing a general background, *Southeast Asia: A Modern History* cannot be surpassed. To anyone who has avoided South-East Asia as an object of study, this is the right book to start with; it is comprehensive, highly readable and with an enthusiasm for the subject that calls for further readings. In short, it is the History 101 of South-East Asia.

With a history every bit as complex as Europe's, perhaps even more so and in non-European ways, understanding what happened when and why is essential to anyone wanting an insight of how those nations behaved in the past and may do so in the future. Many histories of the region have taken a Eurocentric view in which the most important experiences are those deriving from colonialism, and through writing history according to European precepts as to what history is supposed to be. In fact, quite a few pages in *Southeast Asia* are taken up with the debates of the historiography of writing about the nation states there, and which is clearly intended for the more serious historian.

For its structure, the book is thematically presented in five parts: Peoples and States, Environment and Economics, Societies and Commitments, Protests and Politics and Historiography. Each part is divided further: for example under People and States, we find sections on Peoples and Identities, Kingdoms and Super-Kingdoms, Empires, and so on. Societies and Commitments (the headings are often themselves challenging in their unconventionalness!), State and Society, Obligations and Associations, Armies and Guerrillas, Religion and Education. The first section of Protest and Politics deals with Millenarianism and Court Politics, subjects which have not had cause to be featured in Western histories for some time now. Millenarianism, a belief by way of religion or politics to secure a comprehensive and

salvationary solution for all social, personal and political predicaments, has been more or less a dead issue in Europe, certainly since the Enlightenment, but here it has persisted: “[t]hose who participate are clear that change cannot be effected in other way than by inspired action, by trust, by faith, by following a charismatic leader by a kind of magic.” (p. 350).

Histories of South-East Asia need a wider readership in the ADO community, if the ADO is to maintain its Asia awareness, and Tarling’s book is a good starting point. While politicians may argue endlessly over Australian identity, there is a simple and undeniable geographic juxtaposition which will, in the longer run, dominate and prevail.

**KIA KAHA – FOREVER STRONG – New Zealand in the Second World War** edited by John Crawford, published by Oxford University Press, 316 pages

*Reviewed by Lieutenant Colonel Chris Field*

The ANZAC relationship was forged during World War I, and then progressively developed during the next 84 years. However, what do Australian Defence Force (ADF) members really know about New Zealand’s national security outlook? How was this national security outlook shaped by the New Zealand experience in World War II? *Kia Kaha – Forever Strong* – offers some answers, and provides ADF members an opportunity to understand the ways New Zealand’s world view was shaped by their contribution to the Allied effort in World War II.

The *Kia Kaha – Forever Strong* conference was held at the National Library in Wellington

between 4 and 7 May 1995 to commemorate the 50th anniversary of the end of World War II. The book covers a wide array of topics including: New Zealand’s World War II strategy; joint campaigns in North Africa, Greece, Italy, and the Pacific; studies of Generals Kippenberger, Barrowclough, and Freyberg; and, New Zealander attitudes on the home-front.

Some controversial arguments are progressed about the World War II contribution of New Zealand to the Allied cause versus the Australian contribution. Arguments which, arguably, reverberate in the current public debate over Australia’s and New Zealand’s strategic positioning with the United States in the *War on Terrorism*. In addition, there is an excellent article comparing the New Zealand Division at the beginning of 1918, with the 2nd New Zealand Division at the beginning of 1945. That article, and an article on Kippenberger’s 5th Brigade in the North African campaign, provides some first class examples of manoeuvre warfare that should, along with some excellent studies of campaigning and the operational art, enhance the warfighting knowledge of ADF members.

Although written in 1995, *Kia Kaha – Forever Strong* – is recommended as an addition to the professional knowledge of ADF members. Many lessons, especially with regards campaigning and the operational art, are timeless and worthy of study by ADF professionals. In addition, the book’s broad summary of New Zealand’s World War II experience, goes some way to explaining our close Ally’s national security outlook and world view during the Cold War, and beyond to the present day.

# Index 2002

No. 152 January/February 2002 – No. 157 November/December 2002

## Title Index

TITLE	ISSUE	PAGE
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Attaining 54,000?	153 Mar/Apr	5
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Dissecting Command and Control with Occam's Razor or Ask not what "Command" and "Control" means to you but what you mean by "Command and Control"	155 Jul/Aug	19
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
From Private to Premier – Sir Rupert Hamer's Years at War	156 Sep/Oct	39
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Future Warfare in the Information Age	153 Mar/Apr	18
General Sir John Monash: What Relevance to Command in the 21st Century?	154 May/Jun	33
Innovation and Exploration: The Purpose and Characteristics of Military Experimentation	152 Jan/Feb	51
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Korean Operations 3RAR Raid on John 227 - 25 January 1952	157 Nov/Dec	37
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Manoeuvre	152 Jan/Feb	43
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?	157 Nov/Dec	31
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3

# Subject Index

TITLE	ISSUE	PAGE
<b>ADMINISTRATION</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
<b>AIR MATTERS</b>		
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
<b>EDUCATION</b>		
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>HISTORY</b>		
From Private to Premier – Sir Rupert Hamer’s Years at War	156 Sep/Oct	39
General Sir John Monash: What Relevance to Command in the 21st Century?	154 May/Jun	33
Korean Operations 3RAR Raid on John 227 - 25 January 1952	157 Nov/Dec	37
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>HUMAN BEHAVIOUR</b>		
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Dissecting Command and Control with Occam’s Razor or Ask not what “Command” and “Control” means to you but what you mean by “Command and Control”	155 Jul/Aug	19
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
<b>INTELLIGENCE</b>		
Future Warfare in the Information Age	153 Mar/Apr	18
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
<b>INTERNATIONAL RELATIONS</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>LAW</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15

TITLE	ISSUE	PAGE
<b>LEADERSHIP</b>		
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Dissecting Command and Control with Occam's Razor or Ask not what "Command" and "Control" means to you but what you mean by "Command and Control"	155 Jul/Aug	19
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
From Private to Premier – Sir Rupert Hamer's Years at War	156 Sep/Oct	39
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
General Sir John Monash: What Relevance to Command in the 21st Century?	154 May/Jun	33
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>LOGISTICS</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?	157 Nov/Dec	31
<b>MANAGEMENT</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Dissecting Command and Control with Occam's Razor or Ask not what "Command" and "Control" means to you but what you mean by "Command and Control"	155 Jul/Aug	19
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?	157 Nov/Dec	31
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>MEDICAL</b>		
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
<b>MILITARY PROFESSIONALISM</b>		
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Dissecting Command and Control with Occam's Razor or Ask not what "Command" and "Control" means to you but what you mean by "Command and Control"	155 Jul/Aug	19
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
From Private to Premier – Sir Rupert Hamer's Years at War	156 Sep/Oct	39
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Future Warfare in the Information Age	153 Mar/Apr	18
General Sir John Monash: What Relevance to Command in the 21st Century?	154 May/Jun	33
Innovation and Exploration: The Purpose and Characteristics of Military Experimentation	152 Jan/Feb	51
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15

TITLE	ISSUE	PAGE
<b>MILITARY PROFESSIONALISM (continued)</b>		
Manoeuvre	152 Jan/Feb	43
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/June	15
Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?	157 Nov/Dec	31
Transformation – Strategic Change within the South African National Defence Force, The	154 May/June	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>NAVAL MATTERS</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>ORGANISATION</b>		
Attaining 54,000?	153 Mar/Apr	5
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/June	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transformation – Strategic Change within the South African National Defence Force, The	154 May/June	25
<b>PEACEKEEPING</b>		
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
<b>PLANNING</b>		
Attaining 54,000?	153 Mar/Apr	5
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/June	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Manoeuvre	152 Jan/Feb	43
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Transformation – Strategic Change within the South African National Defence Force, The	154 May/June	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>POLICY</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Attaining 54,000?	153 Mar/Apr	5
Australian Leadership – Leading Edge or Luddite?	155 Jul/Aug	27
Building Better Personnel Policy and Practice for the Australian Army	154 May/June	3
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
Current and Future Command Challenges for New Zealand Defence Force Personnel	155 Jul/Aug	39
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Massachusetts Military Reservation and its Lessons for the Australian Defence Organisation, The	153 Mar/Apr	10

TITLE	ISSUE	PAGE
<b>POLICY (continued)</b>		
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>POLITICS</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Role of Defence Health in Military Operations Other than War – A Research Proposal, The	154 May/Jun	15
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>RECRUITING</b>		
Attaining 54,000?	153 Mar/Apr	5
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transformation – Strategic Change within the South African National Defence Force, The	154 May/Jun	25
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>SECURITY</b>		
Applicability of Navigational Rights Under UNCLOS During Times of Armed Conflict, The	156 Sep/Oct	19
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>STRATEGY</b>		
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
Future Warfare in the Information Age	153 Mar/Apr	18
Innovation and Exploration: The Purpose and Characteristics of Military Experimentation	152 Jan/Feb	51
Integration of Joint and Single-Service Doctrine – Ensuring Maritime, Land and Air Concepts are Understood and Applied, The	152 Jan/Feb	5
Manoeuvre	152 Jan/Feb	43
<b>TECHNOLOGY</b>		
Contemporary Perspectives on National Missile Defence	155 Jul/Aug	3
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Future Warfare in the Information Age	153 Mar/Apr	18
Innovation and Exploration: The Purpose and Characteristics of Military Experimentation	152 Jan/Feb	51
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Should the ADF Pursue State of the Art Capabilities in Order to Maintain a Capability Edge?	157 Nov/Dec	31
<b>TRAINING</b>		
Building Better Personnel Policy and Practice for the Australian Army	154 May/Jun	3
Deterrence, Capacity and Skill Retention: Some thoughts on the acquisition or removal of platforms within the Australian Defence Force	156 Sep/Oct	13
Does Risk Management Cultivate a Culture of Risk Avoidance?	155 Jul/Aug	34
Education and Training through E-Learning, and the Implications for Defence	157 Nov/Dec	5
Embracing Positive and Transformational Change in the Australian Army – A Bridge Too Far?	152 Jan/Feb	35
Fundamentals of Junior Officer Training, The	152 Jan/Feb	27
Leading Thirsty Horses to Water: High Performance Cultures and ADF Capability	152 Jan/Feb	15
Mens est Clavis Victorai (The Mind is the Key to Victory)	156 Sep/Oct	30
Requirement for Specialist Army Electronic Warfare Officers, The	153 Mar/Apr	23
Rethinking the Personnel-Capability Link	157 Nov/Dec	23
Transforming the Officer Initial Training Faculty of the Royal Australian Naval College	153 Mar/Apr	31
<b>VIETNAM CONFLICT</b>		
What Factors Led to Australian Military Involvement in the Vietnam Conflict Between 1962 and 1972?	156 Sep/Oct	3
<b>KOREAN WAR</b>		
Korean Operations 3RAR Raid on John 227 - 25 January 1952	157 Nov/Dec	37

## Reviews

TITLE	ISSUE	PAGE
Air Power: Promise and Reality	154 May/Jun	41
Australian Defence Preparedness: Principles, Problems and Prospects	154 May/Jun	42
Before The Storm	153 Mar/Apr	52
Behind Enemy Lines	154 May/Jun	44
Cambridge Illustrated History of China, The	153 Mar/Apr	45
Catalina Dreaming	156 Sep/Oct	45
Changi	153 Mar/Apr	49
Chased by the Sun	156 Sep/Oct	47
Code Breakers – The Inside Story	152 Jan/Feb	63
D-Day 1944: Voices From Normandy	154 May/Jun	46
Eleven Days of Christmas America's Last Vietnam Battle, The	155 Jul/Aug	46
Encyclopedia of Political Anarchy	153 Mar/Apr	54
Fall of Crete, The	153 Mar/Apr	50
Fatal Choice: Nuclear Weapons and the Illusion of Missile Defence	157 Nov/Dec	46
Gallipoli	153 Mar/Apr	46
Gallipoli	155 Jul/Aug	46
Judge Advocates in Combat: Army Lawyers in Military Operations From Vietnam to Haiti	156 Sep/Oct	45
Kia Kaha – <i>Forever Strong</i> – New Zealand in the Second World War	157 Nov/Dec	50
Making War Thinking History	157 Nov/Dec	47
Marine, The	156 Sep/Oct	47
Morshead	153 Mar/Apr	55
One Way Flight to Munich	154 May/Jun	44
Real C-Cubed: Culture, Careers and Climate and How They Affect Capability, The	157 Nov/Dec	48
Sir James Whiteside McCay: A Turbulent Life	156 Sep/Oct	44
Southeast Asia: A Modern History	157 Nov/Dec	49
Spy's Life, A	156 Sep/Oct	43
Strategists, The	154 May/Jun	45
The Real C-Cubed: Culture, Careers and Climate and How They Affect Capability	157 Nov/Dec	48
Tracy	152 Jan/Feb	63
Viet Nam Shots	154 May/Jun	43

## Authors

TITLE	ISSUE	PAGE
Atkinson, Brigadier Rob	154 May/Jun	15
Bowd, Lieutenant Reuben R.E., RAAOC	155 Jul/Aug	3
Brennan, Michael J., Bowley, Dean K., DSTO	152 Jan/Feb	51
Bowley, Dean K. and Brennan, Michael J., DSTO	152 Jan/Feb	51
Davies, Lieutenant Colonel Murray	154 May/Jun	25
Davison, Captain S.	152 Jan/Feb	43
de Lisle, Roger, RMIT University	156 Sep/Oct	39
Elkington, Squadron Leader J.	157 Nov/Dec	5
Field, Lieutenant Colonel Chris	156 Sep/Oct	3
Hayward, Dr Joel, Centre for Defence Studies, Massey University, New Zealand	155 Jul/Aug	39
Frazer-Jans, Judy, and Jans, Nick, Management Consultants	152 Jan/Feb	15
Jans, Nick and Frazer-Jans, Judy, Management Consultants	152 Jan/Feb	15
Jans, Nick and Schmidtchen, David	157 Nov/Dec	23
Jones, Captain L.T., ARA, McGavin, Rev. Associate Professor P.A. and Murray, Captain D.J., ARA	154 May/Jun	3
Kavanagh, Lieutenant Colonel M.	153 Mar/Apr	10
Kirwin, Lieutenant Jason J., RAN	153 Mar/Apr	31
Kitchin, Major M.J.	153 Mar/Apr	23
Langford, Captain, I.D., RANf	155 Jul/Aug	34
Leschen, Captain P.D., RAN	152 Jan/Feb	5
Lewis, Lieutenant Tom, RAN	156 Sep/Oct	13
McGavin, Rev. Associate Professor P.A., Murray, Captain D.J., ARA, and Jones, Captain L.T., ARA	154 May/Jun	3
McGuire, Lieutenant Colonel D.J.	152 Jan/Feb	35
Murray, Captain D.J., ARA, Jones, Captain L.T., ARA, and McGavin, Rev. Associate Professor P.A.	154 May/Jun	3
Nicholl, Major Dominic	154 May/Jun	33
O'Neill, Major Mark	157 Nov/Dec	31
Ong, Commander Peter, RAN and Schindlmayr, Thomas	153 Mar/Apr	5
Pears, Lieutenant Colonel M.B., (Retd)	157 Nov/Dec	37
Ruff, Captain Christopher, Aus Int	155 Jul/Aug	27
Schindlmayr, Thomas and Ong, Commander Peter, RAN	153 Mar/Apr	5
Schmidtchen, David and Jans, Nick	157 Nov/Dec	23
Schofield, Major Peter	153 Mar/Apr	18
Smith, Captain C.R.	152 Jan/Feb	27
Sproles, Dr Noel, University of South Australia	155 Jul/Aug	19
Swinburg, Lieutenant Colonel Philip R.	156 Sep/Oct	30
Wood, Major B.A., RAA	156 Sep/Oct	19



