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Editor

Irene M. Coombes

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Front Cover

Commandos from the 4th Battalion Royal Australian Regiment during Exercise Swift Eagle

Photograph by Corporal Jason Weeding

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Letters to the Editor

Dissecting Command and Control with Occam's Razor

Dear Editor,

I refer to Nigel Evans's letter to the editor in ADFJ November/December 2002 where he commented on my article in ADFJ July/August 2002. I am grateful for his pointing out the existence of a reference to C2 in a 1938 British Army pamphlet and for his subsequent assistance that allowed me to get access to a copy of that publication. Having searched so fruitlessly for at least one reference to C2 from the WWII literature, it was particularly exciting to find an even earlier reference.

I feel that Mr Evans was unduly harsh in his view that my conclusion on the origins of C2 was flawed, especially when I was at pains in several instances to point out that these conclusions were not intended to be definitive. Instead, I would like to think that his information has allowed the sequence of events to be refined somewhat. The discussion concerning C2 in the 1938 pamphlet was mainly at what we would now call the tactical and operational levels of war. The later references to C2 made in my article were at the strategic and operational levels of war. In combination, all these references can be seen as indicating a progressive development in the use of the term that has continued to the present day.

The 1938 Artillery pamphlet views "command" as being an authority vested in a commander and "control" as being the ability of a commander, an artillery commander in particular, to actually exercise that authority through the technology of the time i.e. wireless, cable, or liaison officers. The value in tracing the progressive development in the use of the term "Command and Control" lies in demonstrating that there has been an evolution from a clear understanding of what was intended to the present state of confusion surrounding the

meaning of the term. Tracing this process is only a means to an end, to which Mr Evans's contribution has been a welcome addition.

The current confusion surrounding the meaning of C2 is caused by users referring to either command, command arrangements, command support systems or any combination of these. Recognition of this situation will go a long way towards establishing mutual understanding when C2 is being discussed and the avoidance of confusion. This was the thrust of my article and it remains unchanged.

Dr Noel Sproles, PhD Systems
Engineering and Evaluation Centre,
University of South Australia

Australian Navy Photographers

Dear Editor,

A number of Ex-Photographic Branch Members are attempting to compile a register of those who were involved with Photography in the Royal Australian Navy. I believe the branch, which was part of the Fleet Air Arm, was formed in the late 1940s and although small it did have, at times, up to 30 or more officers, sailors and civilians attached to it.

We have a list from the 1992 reunion held at HMAS *Albatross*. Since then more have passed through the branch and many ex-members have moved from their original address.

We are seeking the assistance of readers to update this register. I would appreciate being contacted at the addresses below by anyone who was a member or associated with the branch, or who knows of anybody who was.

Once a comprehensive list has been compiled, we have a view to look at the possibility of arranging a reunion in late 2004.

Dean Gedling, Phone: 041101551
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Time Sensitive Targeting, Operation *Allied Force*, and its Implications for Australia

By Wing Commander R.J. Keir

The West is currently experiencing what many defence analysts call a Revolution in Military Affairs (RMA). This RMA

...is the result of political, social and technological developments that should change the nature of future conflict. The main elements are a preference for the use of non-lethal force, the employment of information warfare, sophisticated command, control communications, computers and intelligence (C4I) systems, and a range of technological developments that permit the precise application of force.¹

The current RMA is also characterised by asymmetric threats,² increased operational tempo, and system networking to achieve a single effect.³ Additionally, it has been said that a key aspect of the present RMA is that “long range precision strike weapons coupled to very effective sensors and command and control systems will come to dominate much of warfare”.⁴

Recent conflicts have shown that many states recognise the vulnerability of their military forces to the technological advantage of the West. In response, many states have increased the mobility, and hence survivability, of their forces and have acquired weapons of mass destruction (WMD) and theatre ballistic missiles (TBM) to provide increased leverage against the West. After the 1999 Kosovo Crisis, the US Department of Defense reported to Congress that Serbia conducted asymmetric operations against NATO by conducting a terror campaign against the Kosovars, taking advantage of NATO’s caution with regard to collateral damage, creating a regional humanitarian crisis, and conducting an information warfare campaign. Serbia also operated its forces at night, under cover of poor weather, and employed a range of camouflage, concealment and deception measures to avoid aerial attack. Additionally, Serbia employed high capability mobile SAMs in an attempt to negate the NATO air attack and achieved some success as evidenced by the loss of the first F-117 in combat.⁵ Other states will in all likelihood follow suit.

These asymmetric threats have demanded that the West develop the capability to quickly

detect, locate, identify and neutralise them.⁶ This capability is called “sensor to shooter”, “flex targeting”, “time critical targeting”, “time sensitive targeting” or most recently “network-enabled operations.”⁷ During Operation *Allied Force*, US commanders often used the term “flex targeting”. Extant US doctrine refers to either time critical targeting (TCT) or time sensitive targeting (TST).⁸ In this article time sensitive targeting (TST) will be used for two reasons: consistency in presentation; and, its current preference by the US military.⁹ TSTs are generally, but not always, mobile and often include TBM, WMD, mobile rocket launchers, command vehicles, troop and vehicle concentrations, ships and aircraft.¹⁰

The synergy that the RMA provides between highly capable sensors, weapons and command and control systems facilitates TST as it allows:

the commander that can gather and process information and initiate action to affect the theatre of operations quickest [to] have a decided military advantage. Conceptually, the ability to process information into action at a quicker pace than the opposition can be thought of as getting “inside” the adversary’s decision cycle by making the friendly force cycle smaller than the opponent’s.¹¹

Therefore, to achieve decision superiority, key TST activities must be efficiently networked to reduce decision times. Targets must be detected, located and identified by modern intelligence, surveillance and reconnaissance (ISR) sensors; the ISR data must be analysed, fused and acted on by robust command, control and communications (C3) capabilities; and,

attack platforms and weapons must be tasked to undertake the strike whilst constantly receiving mission updates. The United States Air Force (USAF) has stated that by 2005, the time taken from initial target detection to aircraft tasking will be reduced to single digit minutes.¹² TST will be a cornerstone of the “transformation” of US air power.

The aim of this article is to analyse the ability of the current and future Australian Defence Force (ADF) aerospace capability to conduct time sensitive targeting.¹³ To do this the article will outline current and future TST enablers (ISR, C3 and strike), analyse TST as it was undertaken during Operation *Allied Force* during 1999, discuss why the ADF must have such a capability, and propose new doctrine and procedures to ensure that the ADF is capable of conducting time sensitive targeting in the future.

Time Sensitive Targeting Enablers

Before discussing the time sensitive targeting undertaken during Operation *Allied Force*, it is first necessary to describe the necessary TST enablers of ISR, C3, and strike. This section of the article will discuss and analyse these enablers as presently applied by the ADF and how new capabilities may be applied in the future.

Intelligence, Surveillance and Reconnaissance

US joint doctrine defines ISR as “integrated capabilities to collect, process, exploit, and disseminate accurate and timely information that provides the battlespace awareness necessary to successfully plan and conduct operations”.¹⁴ In relation to TST, targets must be detected, located and identified by ISR capabilities. In general terms, there are three main ISR capabilities: airborne early warning and control (AEW&C), signals intelligence (SIGINT), and imagery intelligence (IMINT). These capabilities may operate at the strategic, operational or tactical levels of war and be accommodated in inhabited or uninhabited aircraft, fixed or rotary wing aircraft, or spaced based satellites.

The present ADF air power ISR capability is resident in two aircraft types: four RF-111C photographic reconnaissance and 19 P-3C Orion maritime patrol aircraft. Both aircraft types are at present undergoing upgrades or have projects in

train that will significantly increase their utility in TST.¹⁵ Future ISR platforms that will have a major impact on the ADF’s ability to conduct TST include space based assets,¹⁶ the Jindalee Over-the-horizon Radar Network (JORN), Wedgetail AEW&C aircraft, Tiger armed reconnaissance helicopters,¹⁷ and Global Hawk¹⁸ and tactical uninhabited aerial vehicles (UAV).¹⁹ These capabilities will provide the ability to observe TSTs by detecting, locating and identifying them. The ADF must then take the information that its ISR capabilities have provided, orient itself, and then decide on a course of action. It will do this by using its C3 capability.

Command, Control and Communications

Command is the authority vested in an individual to control military forces, control is the process whereby commanders exercise this authority, and communications facilitate the two processes by allowing the ability to transmit orders and receive battlespace awareness.²⁰ Together these concepts and capabilities are critical for the effective conduct of TST. Commanders develop operational objectives and priorities, orient themselves to the operational situation, decide what and how TSTs are to be affected, and convey their decisions to the executing personnel.

The key recent developments in ADF C3 have centred on the operational level of war.²¹ They include the establishment of Headquarters Australian Theatre (HQAST), the appointment of Commander Australian Theatre (COMAST), the creation of the Australian Theatre Joint Intelligence Centre (ASTJIC), and the adoption of the joint task force (JTF) concept. To control joint Australian aerospace power during operations, a joint force air component commander (JFACC) will be appointed by COMAST or CJTF, and a joint or combined air operations centre (AOC, JAOC or CAOC) will be established to support him.²² The AOC will be at the centre of aerospace related TST activity as the JFACC will be responsible for diverting aircraft from tasked targets to meet emerging ones.

Secure and effective communications are critical to TST as they connect strike assets to the

command and ISR capabilities. Tactical digital information links (TADILs) are particularly important as they allow encrypted, standardised, and automated digital message formats to be received and transmitted by aircraft in near real time. Link 16 is the modern TADIL of choice and has been approved for the RAAF's Wedgetail AEW&C, F/A-18 and P-3C. The US Department of Defense Report to Congress, *Kosovo/Operation Allied Forces After Action Report*, stated that "[a] joint, secure, tactical data link capability such as Link 16 is needed across all strike platforms to allow real time data exchange and precision target processing between sensor and shooter, and to establish a robust common tactical picture".²³

Strike

Strike assets are required to deliver lethal or non-lethal force against TSTs. Strike assets include tactical aircraft (TACAIR) such as F/A-18, F-15E and F-16 aircraft, strategic bombers such as B-1, B-2 and B-52 bombers, sea and air launched cruise missiles, special forces, ground based artillery, missile and rocket systems, as well as an ever widening variety of information operations capabilities such as computer network attack.

The present ADF aerospace strike capability is built around a triad of 31 F-111C/G, 71 F/A-18 Hornet and 19 P-3C Orion aircraft. The F-111C and F/A-18 aircraft use both unguided and Paveway II/III laser guided bombs (LGBs).²⁴ Additionally, all three aircraft types employ the AGM-84 Harpoon anti-ship missile. Future additions to this strike capability include the acquisition of the AGM-142 Popeye stand off weapon for the F-111C, acquisition of even longer range stand off weapons, such as the Joint Air to Surface Stand off Missile (JASSM), for the F-111, P-3 and possibly F/A-18,²⁵ and the upgrading of the bomb inventory to possibly include the Joint Direct Attack Munition (JDAM).²⁶

Time Sensitive Targeting in Operation Allied Force

Operation *Allied Force* lasted 78 days from 24 March to 20 June 1999. During this time NATO air power was used against a range of

tactical fielded forces and strategic targets in Serbia, Kosovo and Montenegro. Whilst analysis of the Operation tends to concentrate on the unwieldy target approval process, the lessons learned (or observed) of coalition/alliance warfare or the inevitable collateral damage incidents, this article will focus on the technological and doctrinal issues relevant to the prosecution of TSTs by aerospace power in Kosovo.

An analysis of TST during the Operation would not be complete without at least mentioning that there was significant disagreement in which overall strategy to adopt – target Serbia's strategic targets in Serbia proper to punish Serb actions in Kosovo and coerce Milosovic to withdraw, or target the Serb military (VJ) and police forces actually undertaking the mass persecutions in Kosovo itself. The former strategy was the US Air Force's preferred one as it ensured the use of the US strengths against the enemy's weaknesses.²⁷ The latter strategy was that preferred by General Wesley Clarke, the Supreme Allied Commander Europe (SACEUR). Both strategies were pursued, but the targeting of Serb forces in Kosovo received more importance every day because it was supported by the NATO allies, and was more readily identifiable with the pain being inflicted on the Kosovars and hence the reason why the war was initiated. TST therefore became the tool whereby a key part of NATO's strategy was implemented. In his book, *Waging Modern War*, Clark clearly describes TST in these terms: "Flexibility. That's what this was all about. How do you reduce the planning time and attack more spontaneously without running unacceptable risks for your aircrews."²⁸

The ISR, C3 and Strike Enablers

During the operation, vast ISR capabilities were utilised by NATO. Imaging and signals intelligence satellites, E-3 AEW&C aircraft, E-8 Joint STARS aircraft with synthetic aperture radar and ground moving target indicator (GMTI) systems, U-2 high altitude imagery and signals reconnaissance aircraft, RC-135 and EP-3 signals intelligence aircraft, and Predator, Hunter and Pioneer UAVs were all used to detect, locate and identify Serb TSTs. The mountainous terrain and a lack of armoured targets hampered the ability of

Joint STARS to detect and locate Serb forces. Space-based and U-2 imagery were hampered, as “cloud cover over Kosovo was greater than 50 per cent for more than 78 per cent of the air war’s duration”.²⁹ UAVs were often used to identify targets detected by other ISR assets for “shooters” as they also had a useful ability to fly under poor weather, which continually hindered NATO air operations, and could acquire high quality video imagery to satisfy the strict rules of engagement.

TST during *Allied Force* was heavily reliant on the CAOC. The CAOC was the critical command and control node between the ISR assets and the strike, or “shooter”, assets that would actually engage the targets. The US Department of Defense Report to Congress, *Kosovo/Operation Allied Forces After Action Report*, stated:

*A long-standing military requirement, again validated during Operation Allied Force, is the need to provide rapid targeting and re-targeting of aircraft and preferred munitions against known and emerging targets. A rapid targeting system that included reachback, distributed operations, and real-time collection, intelligence, surveillance, and reconnaissance assets was successful in shortening timelines from sensor to shooter. Real-time threat information detected by various systems was relayed to the Combined Air Operations Center, passed directly to strike assets, and exploited at national intelligence centers.*³⁰

Although the CAOC is critical to TST, it is worth noting that a dedicated TST Cell was only established within it in late April – a month after the initiation of hostilities.³¹

This operation also saw a vast array of strike aircraft and weapons utilised, many for the first time. The B-2 was first used in combat during this operation and it quickly became one of the most powerful and flexible weapons at NATO’s disposal:

Each B-2 flew...directly from Whiteman on 28- to 32-hour round-trip missions, delivering up to 16 global positioning system (GPS)-guided GBU-31 joint direct-attack munitions (JDAMs) from 40,000 ft, usually through

*cloud cover, against enemy targets including hardened command bunkers and air defense facilities. Those missions typically entailed 15-hour legs out and back, with two inflight refuelings per leg...The aircrews quickly adjusted to these unprecedentedly long missions and coped with them adequately. They also quickly adapted to the demands of real-time targeting changes en route...The first time the ensuing air effort attempted to apply what came to be called “flex” (for flexible) targeting against enemy assets that had been detected and identified only on short notice, the B-2s took out two SA-3 sites that had been assigned to them only a few hours prior to their planned arrival over target.*³²

It is worth noting that of all of the 23,315 US weapons expended during the operation, 6,728, or 29 per cent, were PGMs, and “some 64 per cent of the 9,815 aim points altogether were hit by PGMs, for a total hit rate of 58 per cent”.³³

Conduct of TST

Targeting of fielded forces in Kosovo proved to be one of air power’s major challenges of the war. Serb forces used camouflage, concealment and deception techniques to the best degree possible, hid amongst the Kosovar villages and Kosovo’s forested mountains, and operated largely at night and in poor weather. All of this compounded to make it extremely difficult for NATO’s ISR assets to detect, locate and identify targets. Serb targets that constituted TSTs within NATO’s strategy were the Serb armour, artillery and mortars in Kosovo, the Serb air defences throughout Serbia, Kosovo and Montenegro (particularly the SA-6 due to its lethality and mobility) and troop concentrations wherever they were to occur.

In order to conduct TST, three approaches were adopted. First, aircraft were apportioned to the TST role and placed on strip alert or on airborne stations. Secondly, aircraft en route to a planned target were re-directed to strike a TST. Thirdly, aircraft were launched into pre-planned holding patterns for “on-call” attacks against Serb forces. All three methods were used with the third method increasing in popularity as the operation continued.³⁴

Estimates on how successful the TST campaign was varied considerably. During the operation, NATO believed that it had reduced Serb forces in Kosovo by 25 to 30 *per cent*.³⁵ After the operation however, studies revealed quite a different picture. The *Kosovo/Operation Allied Forces After Action Report* stated that 93 tanks, 153 armoured personnel carriers, 339 other military vehicles and 389 artillery and mortar pieces were destroyed.³⁶ Only the Serbs know the exact figures, and they are unlikely to tell. Despite the targeting difficulties, there were several major success stories during Operation *Allied Force* for TST:

*For instance, the U-2 demonstrated its ability to be retasked in real time to image a reported SA-6 site, data-link the resulting imagery via satellite back to its home base at Beale AFB, California, within minutes for an assessment of the target's coordinates, and have the results transmitted back to the cockpit of an F-15E just as its pilot was turning inbound toward the target to fire an AGM-130. In another such case, on Day 4 a Navy TLAM on short notice successfully attacked a "target of opportunity" believed to have been a pop-up MiG-29 detected on the runway at Batajnica by real-time imagery from a U-2.*³⁷

Whilst not daily occurrences, these examples show how much effort was expended to make TST a reality, as well as the inherent technological and doctrinal challenges.

UAVs in particular greatly increased the ISR coverage over Kosovo and thus had a direct influence on the ability of NATO to conduct TST. UAV doctrine and tactics developed throughout the operation:

One new procedure demonstrated operationally for the first time in Kosovo entailed a clever fusion of UAV sensor and specialised command and control procedures, in which two Predators orbiting at 5,000 ft would provide electro-optical and infrared identification of mobile targets and a third Predator would then use its laser designator and mapping software to provide geolocation, after which orbiting A-10s or F-16s could be called in on the detected

*target. Several confirmed hits on VJ tanks were made possible by this technique.*³⁸

Towards the end of the operation, the USAF started trials on equipping Predator UAVs with Hellfire air-to-surface missiles for use in TST to decrease the time taken from target detection and identification to mission execution. Whilst armed Predators were not actually used during Operation *Allied Force* as the capability was fielded too late, they have been used with success during Operation *Enduring Freedom*.³⁹

TST is a modern military answer to the challenges of the RMA. TST allows targets to be engaged once located and identified, strengthens the operations-intelligence interface and allows aerospace power to be decisive against modern fielded forces. General Jumper, the then USAF Commander in Europe and now the USAF Chief of Staff, however, lamented the lack of a NATO ground force to find and fix the adversary, and believed that this challenge required many technological and doctrinal advances:

*General Jumper later concluded similarly that the imperative of attacking fielded enemy forces without the shaping presence of a NATO ground threat had produced "major challenges", including creating a faster flexible targeting cycle; putting a laser designator on Predator; creating new target development processes within the CAOC; creating real-time communications links between finders, assessors, and shooters; and developing more rapid real-time retargeting procedures for the B-2s, the B-1s, the B-52s, and F-15Es carrying the AGM-130.*⁴⁰

The lessons from these challenges in 1999 were used to improve operations over Afghanistan in 2001-2002.

Lessons for Australia

The 2000 Australian Defence White Paper reiterates the independent nature of Australia's defence policy and strategy. It states that Australia's most important long-term strategic objective is the defence of Australian territory from attack.⁴¹ The White Paper also states that Australia will be self-reliant, adhere to a maritime strategy, retain the ability to undertake proactive operations, and contribute to regional and international coalitions.⁴² This strategy places a

premium on the ability to control Australia's air and sea approaches, the ability to strike the adversary far from Australian shores, the ability to conduct joint operations in Australia's near region, and the ability to take the lead in regional coalitions. Additionally, the White Paper states that any Australian commitment to an international coalition in high intensity operations would be by committing sophisticated and interoperable air or naval forces.⁴³ With the advent of asymmetric threats, TST is likely to figure highly in any future coalition strategy as demonstrated during Operation *Allied Force* and during Operation *Enduring Freedom*.

Potential TSTs that may threaten Australian forces operating in the Asia Pacific include, for example, TBM and surface to air missile (SAM) systems. Asian nations that possess both TBM and advanced mobile SAM systems include India, Pakistan, North Korea, South Korea, Taiwan, People's Republic of China, Vietnam, Japan and Singapore.⁴⁴ As well as TBMs and SAMs, many more regional nations possess possible TSTs such as mobile command vehicles, multiple rocket launchers, naval surface combatant and amphibious vessels, submarines in port, and modern combat aircraft. The ADF must consider with what, and how, it will conduct the TST of these high value targets if it becomes necessary to do so.

There are several key lessons for Australia out of the Operation *Allied Force* TST effort. These lessons include the importance of TST to modern military operations and the importance of having a credible TST capability if Australia is to operate effectively within a coalition led by the US. Also key is the importance of having capable ISR assets, of raising and maintaining the AOC as a weapon system, and of having capable strike assets with stand off, all weather, precision guided weapons. General Jumper, in a *Royal Air Force Air Power Review* article in late 1999, listed what he thought were the key capabilities required for coalition warfare. They were secure communications, identification friend or foe (Mode 4), radar warning receivers, and airborne laser designation.⁴⁵ Many of these are required for effective TST. General John Jumper has more recently said (February 2002) that the two

required capabilities for interoperable coalition air operations were:

*reliable, secure communications and some sort of precision weaponry. That is what you need to get into the fight. If you've got that, there is a role to play.*⁴⁶

Obviously if a nation retains capabilities beyond those mentioned above, for example, the ability to use GPS guided bombs instead of only laser guided munitions, then that nation has an all weather precision strike capability and is potentially far more valuable to a coalition than if it did not have this capability. Additionally, a nation having Link-16 means that its aircraft can be updated with TST details such as target imagery, precise target coordinates, etc, in flight, again making it more valuable than if it did not. Of course, Australia requires TST doctrine and procedures in addition to the ISR, C3 and strike enablers, in order to be truly TST capable.

Time Sensitive Targeting Doctrine and Procedures

As has been noted, one aspect of an RMA is the innovative matching of technology with doctrine. Military doctrine defines the fundamental principles that provide the framework in understanding military actions. An analysis of Australian joint doctrine reveals deficiencies in the ADF's understanding of the TST problem as TST is alluded to in only very general terms. Comparatively, US TST doctrine is mature and was used operationally during Operation *Allied Force* in 1999 against Serbian forces as well as during Operation *Enduring Freedom* in 2001/2002 against Afghan Taliban forces and Al Qaeda terrorists.

To be capable of TST, the ADF requires a doctrine that has clear definitions, a planning and decision-making process, an ISR planning tool to ensure that sensors are in place and mutually supporting, and an organisation capable of managing the process and supporting the commander.

Australian Defence Force Publication Number 23 – Targeting (ADFP 23), details the six step joint targeting process which is also in current use by the US, UK, and Canada. The six steps include; command guidance, target development, weaponeering, force application

planning, execution, and combat assessment. Whilst *ADFP 23* gives a good account of the traditional pre-planned targeting process where targets are developed, weaponised, force packaged, executed and then assessed, it does not use or define the term “time sensitive targeting”. It makes one reference to the “identification of mobile or relocatable elements within a system that has operational level significance” as part of the target development process, but no similar reference in the force application planning, execution or combat assessment sections of the doctrine.⁴⁷

As ADF doctrine does not contain a definition for TST, a suitable US definition (“TST” has replaced the “TCT” used in the original) is:

*A surface (TST) is a lucrative, fleeting, land or sea target of such high priority to friendly forces that the joint force commander (JFC) or component commander designates it as requiring immediate response. Surface (TSTs) require such immediate response because they pose, or will soon pose, a significant threat capable of inflicting casualties on friendly forces and civilians. Surface (TSTs), left unserved, could significantly delay achievement of the JFC’s theatre objectives.*⁴⁸

The ADF does, however, use the NATO definition for “target of opportunity” (TOO):

*[a] target which appears during combat and which can be reached by ground fire, naval fire or aircraft fire, and against which fire has not been scheduled.*⁴⁹

TOOs are, however, not the same as TSTs. US doctrine states that whilst TOOs and TSTs may be either lucrative or fleeting, to be a TST however, a target must be designated by the joint commander as a high priority. Whilst the difference may seem pedantic, the real issue is one of command guidance and what targets are deemed by the commander to be especially critical and therefore justify the effort in engaging them.

Further to the above definition, US doctrine classifies surface TSTs as either planned or immediate. Planned TSTs are divided into “scheduled” or “on-call”. Scheduled and on-call

TSTs are normally fixed targets that have been upgraded to TST status by a commander due to changes in operational priorities, that is, they have become high pay-off or lucrative in nature. Depending on their tasked status they are deemed to be either scheduled or on-call. Immediate TSTs are divided into “unplanned” or “unanticipated”. Immediate targets are generally mobile targets that have not been scheduled for attack. Unplanned immediate TSTs are known to exist but are not scheduled for attack, whilst unanticipated immediate TSTs are not expected and, if they do appear, are surprises. Unplanned immediate targets generally constitute the greatest number of TSTs.⁵⁰ The relationships between planned and immediate TSTs are shown in Figure 1.

The TST Process

The US currently uses the six step deliberate joint targeting process as its TST doctrinal foundation, however as the time taken to detect, locate and identify TSTs, and then task aircraft to strike them is now so short, a faster abbreviated targeting process has been implemented. This TST Process uses the traditional “attack mission cycle”, which is described in US joint doctrine as:

*a decision making process used by commanders to employ forces. Within the cycle there are six general mission steps: detection, location, identification, decision, execution, and assessment.*⁵¹

These steps are shown in Figure 2. For the initial attack, the outer ring is used, however for subsequent attacks, both rings are used simultaneously, interacting through the analysis processes at the *decide* stage.⁵²

The *detect*, *locate*, and *identify* steps are undertaken by ISR assets and the fusion of collected intelligence. A target must first be *detected* for it to be known that it is out there somewhere and then precisely *located* to facilitate a precision attack. The target must also be *identified* so as to ensure that it is indeed an adversary and to guard against collateral damage or fratricide. After data fusion, the *decide* phase begins and the data is passed to the AOC. The AOC assimilates the data with its knowledge of the ongoing operations and makes recommendations to the JFACC. If the JFACC

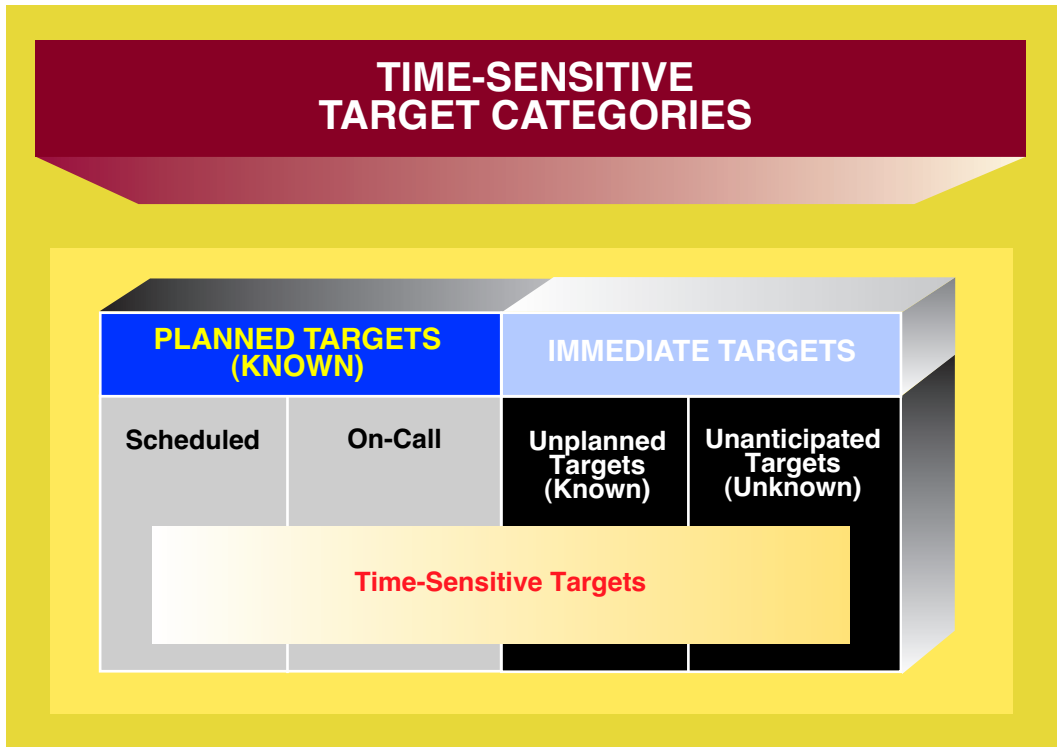


Figure 1. TST Categories⁵³

decides to prosecute the TST, mission data will be transmitted to the selected strike aircraft. This data will likely include the target's geographic coordinates, target description, collateral damage concerns and weaponeering considerations. The strike aircrew then *execute* the mission and, if possible, *assess* the mission's success. If the strike aircrew cannot assess, then suitable ISR assets will be tasked to collect against the target. If necessary, the process will be repeated until the target is neutralised to the required level.

As can be seen, the key with the attack mission cycle is the speed of information collection and analysis in order to influence the *decide* and *execute* steps. With modern ISR and communications capabilities coupled with well-developed doctrine and trained personnel, this entire process may now start and finish in single digit minutes. Due to its timeliness and simplicity, the attack mission cycle should be adopted by the ADF as the foundation of its TST doctrine.

The TST Model

ISR assets and capabilities are directly related to the *detect*, *locate*, *identify* and *assess* phases of the attack mission cycle. As ISR assets each have strengths and weaknesses, the key to their effective use in TST is to ensure that the strengths of one capability overcome the weaknesses of another. As a general rule, active sensors normally *detect* and *locate*, while passive sensors normally *locate* and *identify*.⁵⁴ Passive sensors generally do not *detect* (unless by happenstance) as their fields of view are intentionally limited to increase system resolution. Therefore to satisfy the *detect*, *locate* and *identify* functions of the attack mission cycle, both active and passive sensors are required.

How then do commanders and their staffs ensure that ISR assets that *detect*, *locate* and *identify* TSTs, are available and mutually supporting? In response to this enduring problem, Major William Danskin of the USAF, in *The Time Critical Targeting Model*, has developed a model which provides a method where the synergy between active and passive ISR sensors

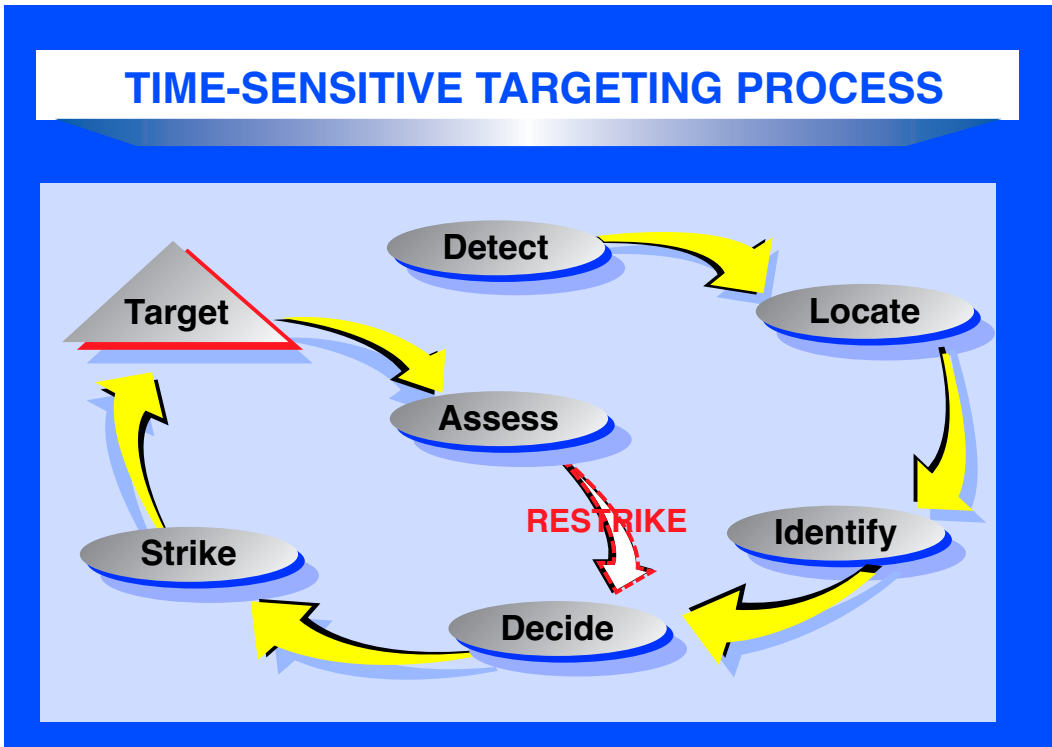


Figure 2. TST Process⁵⁵

is optimised to undertake the *detect*, *locate* and *identify* functions, and provides information which can be fused into an all-source assessment and then disseminated to the appropriate C3 node or strike asset. Figure 3 (page 12) shows the TST Model.

Using this model, commanders can ensure that mutually supporting aircraft and sensors are available to facilitate their TST objectives. The model ensures that the weaknesses of one system are counterbalanced by the strengths of another. In this way the *detect*, *locate*, *identify* and *assess* phases of the attack mission cycle may be best supported. With the increasing number of ISR systems in the ADF inventory, it is critical that a planning tool, such as the TST model, be accepted into doctrine so as to ensure that TST is a fully supported and robust capability.

TST Cell

To manage the attack mission cycle within the AOC, a centralised TST Cell will be required. The TST Cell should be manned by personnel indicative of the information required to facilitate

the *decision* and *execution* phases of the attack mission cycle, and will likely include; a mission coordinator, aircraft mission planners, intelligence officers, imagery analysts and weather experts.⁵⁶ The TST Cell will support the JFACC by reacting to near real-time intelligence on *detected*, *located* and *identified* TSTs and examining whether they comply with the CJTF's guidance. The TST Cell will also be responsible for conducting a cost benefit analysis as to whether the target can be attacked in a timely fashion, if alert strike aircraft should be launched, or if airborne strike aircraft should be diverted.

In conducting its assessment of the situation and the possible options, the TST Cell will also consider target defences, weather, aircraft deconfliction and a myriad of other assorted air operations management tasks. Additionally, the cell will be required to conduct a weaponeering and collateral damage assessment of the target and ensure that the weapons on board the selected (or soon to be selected) aircraft are capable of achieving the desired result. Finally, the cell will be responsible for ascertaining the target's

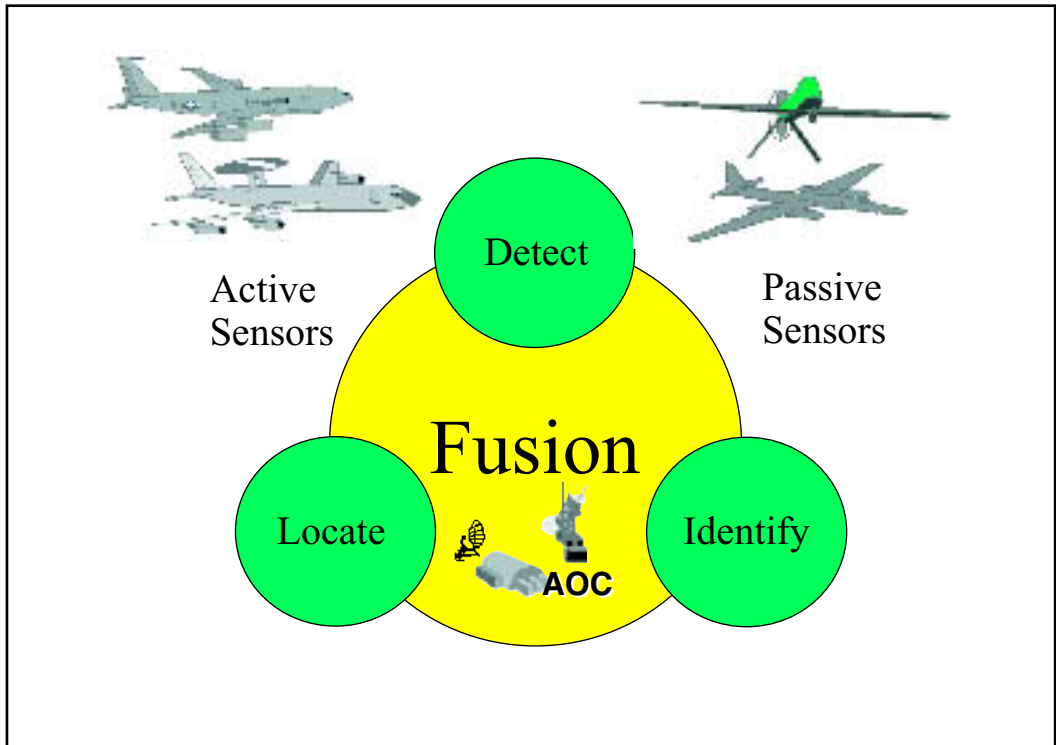


Figure 3. *The TCT/TST Model*⁵⁷

geographic coordinates, compiling the target data and accompanying imagery, and transmitting the brief to the striking aircraft. In summary, the TST Cell will be responsible for planning, directing and managing the targeting of the TST, and assessing whether the effort is worth the ultimate pay off.⁵⁸

The adoption of current US terminology and definitions, the attack mission cycle, the TST model and the TST Cell are the key aspects in the development of an ADF TST doctrine. With these basics, the application of ISR, C3 and strike capabilities to TST, the training of personnel, and the exercising of the systems, tactics and processes will be achievable.

Conclusion

The RMA has allowed the West to undertake military operations at a previously unparalleled level of capability. As evidenced by the West's military performance during Operation *Allied Force*, targets may now be precisely detected, located, identified, engaged and assessed to a level that was undreamed of even a decade ago.

Potential adversaries realise that they cannot compete with the West's military dominance and have therefore adopted asymmetric means, such as WMD, with which to provide a credible level of threat. Additionally, by increasing the mobility and survivability of their key military capabilities, adversarial states hope to resist the West's aerial onslaught and maintain the political initiative through asymmetric means.

Australia recognises that its small forces must be capable of conducting precision strike operations, supported by knowledge dominance, to defeat an adversary either independently or as part of a coalition. To ensure that Australia has the capability to succeed in undertaking these operations in an era of asymmetric warfare, it has acquired, or will have acquired by approximately 2010, an array of ISR, C3 and strike capabilities that will allow the ADF to conduct TST against a range of surface targets.

Australia must learn from NATO's 1999 air campaign against Serbia and consider TST as a key component of its aerospace power capability.

TST does just not happen – it takes considerable technological and doctrinal abilities that Australia must develop if it is to remain at the forefront of regional military capability.

NOTES

1. I. MacFarling, 2000, *Air Power Terminology*, Aerospace Centre, RAAF Base Fairbairn, ACT.
2. US Department of Defense, 16 July 1997, *United States Joint Doctrine Encyclopaedia*, p. 59, defines “asymmetric” as “posing threats from a variety of directions with a broad range of weapons systems to stress the enemy’s defenses.”
3. Commonwealth of Australia, 2000, *Defence 2000: Our Future Defence Force*, p. 108.
4. J.T. Correll, August 1995, “Signs of a Revolution”, *Air Force Magazine*, p. 2. (Quoted in Lax, M.R, April 1999, *Per Ardua Ad Astra: Australian Air Power Post 2010*, Air War College, Air University, Maxwell Air Force Base, Alabama, p. 25).
5. US Department of Defense, Jan 2000, *Report to Congress, Kosovo/Operation Allied Forces After Action Report*, Washington, DC. <http://www.defenselink.mil/pubs/kaar02072000.pdf>
6. Capability is more than just aircraft and weapons systems; it includes everything that makes up the ability to undertake a task and includes aircraft, sensors, logistics, personnel, doctrine, training, command, control, communications and intelligence.
7. See: Australian Department of Defence, June 2002, *Force 2020*, Canberra, ACT, pp. 19-20.
8. The two most recent US doctrine publications on the subject are:
 - a. US Air Land Sea Application Center, July 1997, *Targeting: The Joint Targeting Process and Procedures For Targeting Time Critical Targets*. This is obviously before Operations *Allied Force* and *Enduring Freedom*.
 - b. US Joint Forces Command Joint Warfighting Center, 22 March 2002, *Commander’s Handbook for Joint Time-Sensitive Targeting*. This is obviously after Operation *Allied Force* and during Operation *Enduring Freedom*.
9. Depending on the context, the abbreviation “TST” means either time sensitive targeting or time sensitive target.
10. US Department of Defense, 23 March 1994, *United States Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms*, p. 426.
11. US Department of Defense, 16 July 1997, *United States Joint Doctrine Encyclopaedia*, pp. 221-222. The decision cycle, known as the OODA loop, was developed by Colonel John Boyd and is made up of four phases: observation, orientation, decision and action.
12. Anon., 8 Sep 2000, “Air Force Hopes to Reduce Time Critical Targeting To Minutes”, *Defense Daily*.
13. It should be noted that TST of surface forces by surface or sub-surface means, or sub-surface forces by aerial, surface or sub-surface means, or of air forces by aerial or surface means, are beyond the scope of this article.
14. US Air Force, 21 April 1999, *Air Force Doctrine Document 2-5.2, Intelligence, Surveillance and Reconnaissance Operations*, p. 1.
15. Department of Defence, 2000, *Defence Capability Plan 2001-2010*, pp. 55-56, states that Project Air 5421 will provide the present RF-111 fleet with a “responsive and survivable, tactical reconnaissance capability” and will replace the present optical and infra-red wet-film based reconnaissance capability presently available. The *Defence Capability Plan* (p 13) also states that “AIR 5276 Phase 5 seeks to replace the AN/AAS-36 Infra-red Detection System (IRDS) on the Royal Australian Air Force (RAAF) AP-3C aircraft with a modern electro-optic system. The IRDS complements the radar and Electronic Support Measures (ESM) systems of the AP-3C in the search for, and identification of, surface targets”.
16. The *Defence Capability Plan* (pp. 95-96) states that “JP 2044 Phase 2 and Phase 3 seek to develop a space-based surveillance capability as a part of the Defence layered surveillance system.” Additionally “JP 2078 Phase 1 and Phase 2 seek to develop an operational hyper-spectral imaging capability for Defence.” (pp. 141-142).
17. The *Defence Capability Plan* (pp. 1-2) states that “AIR 87 Phase 2 seeks to provide the Australian Defence Force (ADF) with armed reconnaissance helicopters for land defence. The proposal scope includes the provision of helicopters for aerial reconnaissance and fire support.” Since the DCP was issued, Eurocopter Tiger won the contract and 22 aircraft will be purchased.
18. The *Defence Capability Plan* (pp. 117-118) states that “JP 2062 Phase 2 seeks to acquire the mature Global Hawk system to provide an enhanced Australian Defence Force (ADF) aerial surveillance capability”.
19. The *Defence Capability Plan* (pp. 73-74) states that “JP 129 Phase 2 will enhance the Australian Defence Force (ADF) aerial surveillance capabilities for land operations and selected maritime operations by acquiring Unmanned Aerial Vehicles (UAVs) tailored for focal area surveillance. This phase seeks to provide UAVs

- to conduct a variety of surveillance, reconnaissance, target acquisition and other missions, and may also require the integration of a broader area surveillance system, such as a manned platform, to provide a complete capability”.
20. Australian Defence Force, Latest amendments to 21 October 1997, *Australian Defence Force Publication 102, Glossary*, Australian Defence Warfare Centre, RAAF Williamtown, NSW.
 21. Australian Army, 2002, *LWD-1, The Fundamentals of Land Warfare*, p. 49, states that “[t]he operational level of war is concerned with planning and conducting campaigns to attain military strategic objectives within a theatre of operations.”
 22. Scott, W.B., 2 October 2000 “Experimental Center Nails Time-Critical Targets”, *Aviation Week and Space Technology*, New York, pp. 70-72, reported recently that the AOC has been designated an official weapons system in the USAF, that is, it now has the same standing as aircraft.
 23. US Department of Defense, Jan 2000, Report to Congress, *Kosovo/Operation Allied Forces After Action Report*, Washington, DC. <http://www.defenselink.mil/pubs/kaar02072000.pdf>
 24. With Mk-82 500 lb (GBU-12), Mk-84 2000 lb (GBU-10) and BLU-109 2000 lb (GBU-24 (V) 2/B) warheads.
 25. The *Defence Capability Plan*, pp. 53-54, states that Project Air 5418 involves the acquisition of standoff weapons to engage area, littoral and radar targets from F-111, P-3C and F/A-18 aircraft later in the decade.
 26. The *Defence Capability Plan*, p. 41, states that Project Air 5409 seeks to improve the capabilities of current Mk 80 series bombs to increase accuracy and stand off range. The JDAM is an option which would allow ADF aircraft to attack targets in all weather conditions 24 hours a day – unlike the present range of LGBs which must be released below cloud level if the weather is poor. To support TST, the aircrew would require the ability to re-program the weapon’s target coordinates, however, there is no known post-launch target update capability.
 27. And that preferred by LTGEN Mike Short, the Combined Forces Air Component Commander at the CAOC in Vicenza, Italy.
 28. Wesley K. Clarke, 2001, *Waging Modern War: Bosnia, Kosovo and the Future of Combat*, New York, p. 215.
 29. B. Lambeth, 2001, *NATO’s Air War for Kosovo: A Strategic and Operational Assessment*, <http://www.rand.org/publications/MR/MR1365/>, p. 125.
 30. US Department of Defense, Jan 2000, Report to Congress, *Kosovo/Operation Allied Forces After Action Report*, Washington, DC. <http://www.defenselink.mil/pubs/kaar02072000.pdf>, p. 95.
 31. Lambeth, *NATO’s Air War for Kosovo*, p. 212.
 32. *ibid.*, p. 90.
 33. *ibid.*, pp. 87-88.
 34. *ibid.*, p. 123.
 35. *ibid.*, p. 129.
 36. *Report to Congress, Kosovo/Operation Allied Forces After Action Report*, p. 86.
 37. Lambeth, *NATO’s Air War for Kosovo*, pp. 159-160.
 38. *ibid.*, p. 95.
 39. RQ-1 Predator MAE UAV, <http://www.fas.org/irp/program/collect/predator.htm>, downloaded 27 Oct 02.
 40. Lambeth, *NATO’s Air War for Kosovo*, p. 242.
 41. Commonwealth of Australia, 2000, *Defence 2000: Our Future Defence Force*, pp. 29-32.
 42. *ibid.*, pp. 46-52.
 43. *ibid.*, p. 52.
 44. International Institute Strategic Studies, 18 October 2001, *The Military Balance 2001-2002*, Oxford University Press, states that the following Asian countries possess TBMs and advanced SAMs: India (Prithvi, Agni, SA-5, SA-6 and SA-10), North Korea (FROG-3/5/7, SCUD-C, No Dong and SA-5), Pakistan (Hatf-1, Hatf-3, Shaheen-1 and Ghauri), Peoples Republic of China (CSS-2, CSS-3, CSS-5, CSS-6, DF-11, DF-15 and SA-10), South Korea (NHK-1/11 and I-Hawk) and Vietnam (SCUD-B/C and SA-6), Japan (I-Hawk and Patriot), Singapore (I-Hawk) and Taiwan (Patriot).
 45. General J. Jumper, 1999, “Kosovo Victory – A Commander’s Perspective”, *Royal Air Force Air Power Review*, Volume 2, Number 4, London, pp. 7-8.
 46. General J. Jumper, 14 Feb 2002, *Air Force Chief of Staff Presentation to the Air Force Association National Symposium*, Orlando, from www.wef.org/pub/jump202.asp, downloaded on 9 July 2002.
 47. Australian Defence Force, 3 February 2000, *Australian Defence Force Publication 23 - Targeting*, Australian Defence Warfare Centre, RAAF Williamtown, NSW, p. 5-7.
 48. US Air Land Sea Application Center, July 1997, *Targeting: The Joint Targeting Process and Procedures For Targeting Time Critical Targets*, p. viii.

49. Australian Defence Force, Latest amendments to 21 October 1997, *Australian Defence Force Publication 102, Glossary*, Australian Defence Warfare Centre, RAAF Williamtown, NSW, p. T-3.
50. *Commander's Handbook for Joint Time-Sensitive Targeting*, p. I-5.
51. US Department of Defense, 23 March 1994 as amended through 14 June 2000, *United States Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms*, p. 271.
52. Headquarters United States Air Force, 1 February 1998, *Air Force Pamphlet 14-210, USAF Intelligence Targeting Guide*, pp. 10 – 11, and *Commander's Handbook for Joint Time-Sensitive Targeting*, p. II-4 to 5.
53. *Commander's Handbook for Joint Time-Sensitive Targeting*, pp. I-5-6.
54. W.B. Danskine, April 2000, *The Time Critical Targeting Model*, United States Air Force Air Command and Staff College, Air University, Maxwell Air Force Base, Alabama, USA, p. 15.
55. *Commander's Handbook for Joint Time-Sensitive Targeting*, p. II-4 to 5.
56. W.G. Chapman, June 1996, *Organisational Concepts For The "Sensor-To-Shooter" World: The Impact of Real-Time Information and Airpower Targeting*, School of Advanced Airpower Studies Air University, Maxwell Air Force Base, Alabama, USA, p. 45.
57. W.B. Danskine, April 2000 op.cit., p. 17.
58. E.C. Thomas, April 2000, *The Future of All-Weather, Rapid Reaction Precision Targeting*, Air Command and Staff College, Air University, Maxwell Air Force Base, Alabama, USA, pp. 18-19.

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Have Airmen Sufficiently Valued Airlift?

Squadron Leader Andrew Clark, RNZAF

As Chairman of the Joint Chiefs of Staff, General Shalikhshvili once stressed that unless attitudes towards transport roles in the US changed, “then it doesn’t matter much what kind of force we have because it won’t be able to get there”.¹ He was not the first to make such an observation; military transport has always been an area of contention. Airlift in particular seems to be continually afforded a low priority, not only in the United States, but in many countries throughout the world.

Why might this be? Perhaps airmen do not value airlift sufficiently to meet the demand for it. Certainly, if one were to judge purely by the volume of air power literature, the small amount dedicated to airlift would suggest airmen are more concerned with the sharp end. Air transport does look to be the Cinderella role of air power. This article considers whether that is true. Specifically, it asks whether airmen have sufficiently valued airlift.

To answer this question, it is necessary to trace the origins of airlift: how it was originally conceived and how it developed. Within this context, it is then possible to consider how airmen view airlift, looking specifically at the priority they assign to it, and whether this represents its real value.

Airlift

From the beginning of flight, air power theorists have been largely preoccupied with the possible offensive applications of air power. The early theorists in particular had good reason to explore these new possibilities, having witnessed the horrific carnage of WWI first hand. The attraction of air power was its potential to avert another deadlocked and bloody ground war. Nevertheless, some thought has always been given to airlift, often in the form of assumptions.

Douhet, for example, envisaged a combined civil/military approach: transport aircraft and bombers would essentially require the same airframes, and civilian transporters would be adapted quickly to military use in wartime. Mitchell had similar ideas. Like Douhet, he called for a combined civil/military approach, and he saw bombers and transporters as complementary. In 1918 he had proposed a mass paratroop drop behind German lines from 1200 bombers.²

Air power developed in many countries with this civil/military complementarity in mind. Civil air transport was often pioneered with military assistance, with civil and military aviation sometimes controlled by a single Air Ministry or Department. In return, civil aviation was assumed to be a reserve pool for military contingencies. In the US, the 1934 Baker Board formalised these assumptions, specifically recommending the use

of commercial air transport aircraft to fill Air Corps transport needs.³ The C-47 was designed as a civil transporter, but with these dual roles in mind.

Meanwhile, outdated bombers were also converted for transport use, and the Air Corps Tactical School in particular experimented in this area.⁴ In Britain too, old bombers were used for transport, and in Germany the Ju-52 was a particularly successful bomber-to-transport conversion.

Developing Roles

Airlift operations are nearly as old as air power itself, with aircraft conducting intense resupply operations as early as the siege of Kut in 1916. Between the wars, however, there was little activity. Ferrying Division developed in the US, and the Air Transport Auxiliary appeared in Britain, both with civilian augmentation. The *Luftwaffe* is said to have learned valuable airlift lessons in the Spanish Civil War, ferrying Franco’s troops from Morocco to Spain, but by the outbreak of WWII Germany’s only dedicated military air transport belonged to two paratroop regiments.⁵

In 1939, air transport was still not conceived of as a primary channel of supply for forces in the field. Not until 1942 did rapid resupply become crucial enough to justify organisational change. In response to overwhelming transport demands,

Air Transport Command was created in the US, and the following year the Royal Air Force formed its own Transport Command, employing converted bombers.

The demand for airlift increased rapidly. Germany used large numbers to invade Crete, but had insufficient to relieve Stalingrad. The Allies struggled to meet demand in the Pacific theatre, but worked miracles flying over “the Hump” to keep China resupplied, averaging 640 sorties a day in that operation alone.⁶

By the war’s end, airlift was established as a key requirement for the deployment and supply of military forces. The 1948–1949 Berlin airlift further reinforced the important political and strategic role it could play, while underlining the need for dedicated military airlifters and sound doctrine.⁷ In only 15 months, the Berlin airlift delivered 2,325,509 tons of cargo – more than trebling the daily tonnage achieved during the Hump.⁸

Airlift has continued to play vital roles in operations, through Korea and Vietnam (particularly Na San in 1952–53 and Khe San in 1968), Yom Kippur (providing the only timely resupply from the US) and the Falklands. In the Gulf War, the strategic and political importance of airlift was again demonstrated, with Patriot batteries relocated from Germany to Israel within 22 hours.⁹ Today, the strategic effect of airlift is well established, whether that airlift is conducted intra-theatre (confusingly labelled tactical transport) or inter-theatre (strategic transport). Common roles include airborne operations (troop delivery), air logistic support, special operations support, VIP transport and aeromedical evacuation.¹⁰

Airlift and Air Forces

Despite its proven strategic importance, airlift nevertheless continues to stay in the background. It does somehow appear, simply by public profile, to be less important. Why?

To find the answer, it is necessary first to identify the generalisation inherent in the question. Depending upon the country, airlift may indeed be less important; the need for airlift varies throughout the world. For example, nations such as Austria, Switzerland and Ireland have no medium or heavy lift transport, simply because

their defence missions do not call for such a capability.¹¹ On the other hand, for countries such as New Zealand it is a critical capability and one that is frequently deployed abroad on operations. And for larger countries such as the US and UK, airlift is constantly in demand during contingencies.¹² There can be no single, international standard for the importance of airlift.

Air Force Priorities

In countries that *do* require airlift, it might be more a question of priorities than need, especially at the Service level. As early as 1925, the commander of the US Army Air Corps concluded that “air transports are essential for the movement of an air force”.¹³ This was pure self-interest – airlift provided air forces with operational independence. But budgetary pressures meant prioritising towards other capabilities; it was better to fund the capabilities that *can’t* be supplemented from civilian sources. In the US, the Military Air Transport Service was created in 1948 to consolidate air transport in the armed forces, but by the 1950s (and despite the Berlin airlift), this new formation was under threat, simply because of budget priorities.¹⁴

Despite the political importance that airlift can have, Carl Builder notes in *The Icarus Syndrome* that air forces do view airlift as a secondary support role, and will tend to protect fighter and bomber forces when compromise is required.¹⁵ To prioritise too highly towards a role that supports the other Services might be to raise questions over the need for an independent air force.

Prioritisation has not been difficult for air forces. As noted earlier, civilian transportation has always been necessary – and expected – to augment military lift in contingencies. The question has always been *how much* is appropriate, rather than *whether* it is appropriate. By 1946, US Air Transport Command was already contracting out military air transport routes, and today the Civil Reserve Air Fleet (CRAF) is a key part of USAF air transport planning.¹⁶ In other examples, the RAF used Ukrainian aircraft to supplement its own in deploying forces for Kosovo in 1999, and in East Timor commercial contractors were hired by the



Army Blackhawk helicopter being loaded as cargo into a C130J model Hercules.

RAAF and RNZAF to take over some of the routine resupply tasks into Dili and Suai.

Naturally, these civilian assets can not be counted on to the same degree as military ones – they may have higher priority trade elsewhere. They will also be limited by the extent of hostilities in theatre. But it is clear that for air force planners facing budget challenges, it makes sense to prioritise funding in areas where no civilian supplementation can be expected at all.

These budget priorities can put the Air Force into conflict with the other Services. In the 1950s, two US Army chiefs of staff spoke of relieving “the Air Force of its unwanted burden” and developing their own strategic lift capability if Army needs continued to be ignored.¹⁷ The creation of an expeditionary army corps in 1958 only exacerbated the situation.

Tactical Airlift

However, if civilian transportation makes prioritisation of strategic lift simpler, the same can not be said for tactical lift: the laws of armed conflict prevent civilian carriers from being used within theatre. And yet writers have noted that air

forces do not seem to display any greater enthusiasm for tactical airlift than for strategic airlift.¹⁸

This perception of neglect for tactical mobility greatly increases conflict between the Services. In Australia, for example, the Air Force and Army have clashed several times regarding the need for the Caribou, and also for control of battlefield helicopters.¹⁹ It even seems to have been necessary on occasions to threaten air forces with the removal of the tactical lift role altogether, to spur them to act.

In the US, the Air Force and Army came to an agreement soon after WWII regarding responsibility for tactical airlift. The 1951 Pace-Finletter agreement charged the Air Force with strategic lift, and the Army with tactical lift.²⁰ This was later modified in 1966: the Air Force would be responsible for fixed wing transport, and the Army would take care of rotary wing transport.²¹ But disagreements and suspicion continued. After Vietnam, the tactical and strategic airlift roles were combined into a single Military Airlift Command, with an official United States Air Force report recommending the



Cargo parachute drops from inside C130 Hercules.

replacement of light tactical airlift aircraft.²² But the Air Force, faced with new fiscal constraints, “focussed its priorities and powers of persuasion on behalf of newer fighters and bombers” instead.²³ The Vietnam era light transporters were never replaced.

It is hard to resist the impression that, whether civilian transportation is an option or not, air forces do consider air transport to be less important than other roles.

Glamour

Perhaps the relative glamour of the different roles contributes to this perception. The combat arms of all three Services tend to attract the most attention, regardless of relative utility. Furthermore, air forces are very technology focussed, and traditionally fighters and bombers have made greater use of any cutting-edge technology. By contrast, airlift focuses more on sound organisation and planning. William Tunner, US innovator behind the Hump and the Berlin Airlift, suggested that airlift involves “less

festivities and more attention to dull details, such as good, steady, reliable maintenance”.²⁴

Air combat is exciting and attractive to new recruits, and some air forces consider it to be a higher skilled role as well. Pilots failing a fighter conversion course may be re-rolled to transport, but the converse is much less likely to occur. In countries such as Singapore, Malaysia and Thailand, transport pilots are accordingly paid less than fighter pilots. Perhaps Tunner was right when he claimed that “air transport was relegated to the bottom of the priority list” because it was “so mundane”.²⁵

In Mitigation

Nevertheless, the neglect by airmen of air transport can occasionally be more perceived than real. In 1972, for example, the US Army complained of “gross neglect on someone’s part in the Air Force”, when the USAF delivered only 8 *per cent* of air supplies into the besieged camp at An Loc because of ground fire. In reality, however, the USAF had been dedicating huge resources to protecting airlifters from ground fire

since 1967, and had suffered five aircraft destroyed and 38 hit in three weeks trying to get through to An Loc.²⁶

On some occasions too, it has not been airmen *per se* who have been responsible for airlift's low priority. For example, in 1937 it was the Secretary of War who cancelled the Air Corps' request for transport aircraft, diverting the funds to bombers instead.²⁷ Again in 1950, it was the Secretary of the Air Force who cancelled USAF Chief of Staff Vandenberg's request for new airlifters and diverted the funds to B-36 bombers.²⁸

Air forces have continued to pursue modification programs. For over a decade now, the USAF has vigorously pursued the purchase of more C-17s, negotiating considerable political and financial hurdles. Closer to home, the RAAF remains committed to providing a light tactical airlift capability into the future, under Project Air 5190, despite its earlier attempts at replacing the Caribou failing on cost grounds. Airmen do continue to value airlift, despite the (usually financial) constraints imposed from elsewhere.

Conclusion

From the beginnings of air power, it was expected that airlift would be a joint civil/military responsibility. It was also believed that bombers and transporters would be complementary. By the end of WWII, however, air transport had become a specialist and integral part of military operations. Bombers were no longer useful for transport, although civilian augmentation was still suited to some strategic lift roles.

Today, the need for airlift varies between countries, but for those that have it, airlift can provide a high strategic and political pay-off. Nevertheless, air forces do still appear to assign a lower priority to airlift, regardless of the options for civilian augmentation.

Like the other two Services, air forces hold their combat roles in the highest esteem, but they are still aware of the importance of their support roles, and will work hard to ensure that they are taken care of. In other words, airmen do value airlift. But when forced to make difficult choices, these support roles may be sacrificed to preserve the combat roles. In that regard, airmen are perhaps no different to their land and sea counterparts.

NOTES

1. Keith Hutcheson and Robert McClure, "Mobility and Support" in Daniel Goure and Christopher Szara (eds), *Air and Space Power in the New Millennium*, Centre for Strategic and International Studies, Washington DC, 1997, p. 132.
2. Charles Miller, *Airlift Doctrine*, Air University Press, Maxwell AFB, Alabama, 1988, p. 79.
3. *ibid.*, pp. 5-6.
4. *ibid.*, pp. 10, 17-18.
5. Richard Suchenwirth, *The Development of the German Air Force 1919-1939*, Arno Press, New York, 1968, p. 72.
6. William Tunner, *Over the Hump*, Office of Air Force History, Washington DC, (1964) 1985, p. 129.
7. Roger Miller, *To Save a City: the Berlin airlift 1948-1949*, Texas University Press, College Station, 2000, p. 192.
8. *ibid.*, p. 201.
9. Hutcheson and McClure, "Mobility and Support", p. 133. As a further example, in 1994 the UN was asking for 30,000 troops from the US, Russia and Europe to be on the ground in Bosnia within 72 hours of a peace settlement. Andrew Lambert and Arthur Williamson, *The Dynamics of Air Power*, Joint Services Staff and Command College, Bracknell, 1996, p. 147.
10. *AAP 1000: Fundamentals of Australian Aerospace Power, 4th Edition*, (Royal Australian Air Force) RAAF Aerospace Centre, Fairbairn, 2002, p. 185.
11. While Ireland does deploy frequently for peacekeeping operations, such deployments can be made using civilian air and sea transport.
12. Stuart Peach, "Coalition Air Operations" in Stuart Peach (ed), *Perspectives on Air Power: Air Power in its Wider Context*, Defence Studies (Royal Air Force), London, 1998, p. 77.
13. Miller, *Airlift Doctrine*, p. 9.
14. Tunner, *Over the Hump*, p. 283.
15. Carl Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the US Air Force*, Transaction Publishers, New Brunswick, 1994, p. 256.
16. Miller, *Airlift Doctrine*, p. 165.
17. Christopher Cheng, *Air Mobility: The development of a doctrine*, Praeger, Westport, Connecticut, 1994, pp. 75-76.
18. *ibid.*, p. 42.
19. Alan Stephens, *Going Solo: The Royal Australian Air Force 1946-1971*, Australian Government Publishing Service, Canberra, 1995, p. 422.
20. Cheng, *Air Mobility*, p. 43. The Pace-Finletter agreement was an attempt to delineate the aviation roles and responsibilities of the US Army

- and Air Force. Each Service's airlift capabilities were subsequently defined – and limited – by criteria such as range, speed and lift capacity.
21. Stephen Mcnamara, *Air Power's Gordian Knot: Centralized versus Organic Control*, Air University Press, Maxwell AFB, Alabama, 1994, p. 100.
 22. This report, titled "Corona Harvest", is discussed in Ray Bowers, *Tactical Airlift*, Office of Air Force History, Washington DC, 1983, p. 649.
 23. *ibid.*, p. 652.
 24. Tunner, *Over the Hump*, p. 160.
 25. *ibid.*, p. 290.
 26. Bowers, *Tactical Airlift.*, pp. 546-547, 552. Similarly, the loss of the Italian G222 in Bosnia has prompted airlift self-protection programs in many countries.
 27. Miller, *Airlift Doctrine*, pp. 17-18.
 28. *ibid.*, p. 163.

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The Application of Knowledge Management in Defence

By Lieutenant Colonel M.A. Dixon

Knowledge grows when shared and grows when used. When you give me a dollar, I gain it but you lose it. When you impart knowledge, I gain it but you keep it. The knowledge is doubled.

Karl Erik Sveiby

During the 1990s two radically different management theories emerged that promised to make an organisation competitive and successful. These theories were business process reengineering and knowledge management. Proponents of both processes argued that failure to embrace this future of business would lead to certain failure of an organisation. However the two theories represent profoundly different approaches. Business process reengineering is about the structured coordination of people and information. It is a top-down approach and assumes that an organisation operates in a predictable environment. It is a quantitative approach to organisational problems and avoids the conflict that exists between how processes are formally organised (processes) and how they are actually performed (practice). Knowledge management is a bottom-up predominantly qualitative process that focuses on effectiveness rather than efficiency. It assumes that management can gain most from the creative and innovative ways that people actually get things done. It acknowledges that the ways in which people add to the organisation are not easily identifiable and that organisations operate in an unpredictable environment. Therefore, as will be described in this article, knowledge management provides a thorough and all encompassing approach to reinventing an organisation and can enable the realisation of considerable benefits.

Whilst not required to achieve profit, Defence is required to operate efficiently and to provide value for money for its shareholders, the Australian taxpayer. Effective utilisation of the intellectual capital that exists within Defence through knowledge management has the potential to realise efficiencies far beyond what has already been achieved and with little additional investment. Failure to implement capable knowledge management procedures has the potential to commit staff in Defence to repeating corporate mistakes. In these times of change there exists the ever-present threat that corporate knowledge will be lost as individuals depart the organisation or move to different areas of employment. Effective knowledge management will circumvent these problems.

The aim of this article is to analyse the knowledge management processes within Defence in order to identify appropriate methods, techniques or innovations capable of enhancing the organisation's efficiency. In doing so this article will define knowledge management and will analyse successful commercial knowledge

management practices. Case studies will be used to emphasise the benefits of effective knowledge management to an organisation. This article will then identify current appropriate alternative knowledge management procedures that will enhance the efficiency of Defence.

Knowledge Management

What is Knowledge?

There are many definitions of the word knowledge and although most people have a "feel" for what knowledge is they would be hard pressed to provide a concise definition. Knowledge is best described within the context of the Knowledge Spectrum which includes the element of data at the lower end of the scale, progresses to information when value added, then to knowledge and finally to wisdom as depicted in Figure 1.

To provide a working definition of knowledge I will borrow from Davenport and Prusak:

Knowledge is a fluid mix of framed experience, values, contextual information,

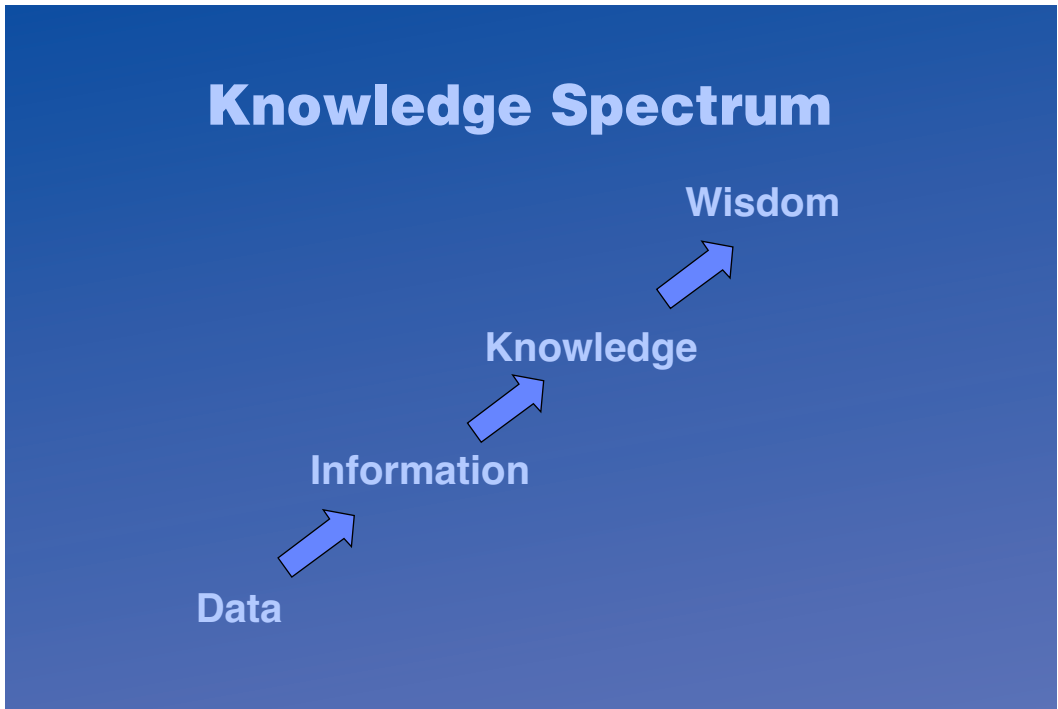


Figure 1. *The Knowledge Spectrum*

and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices and norms.¹

Knowledge can be described as consisting of two types: explicit and tacit. Explicit knowledge is that readily quantifiable knowledge that can be transferred in written form. This includes knowledge or work processes that are transferred via standard operating procedures, manuals and training courses. Tacit knowledge is the type of knowledge that can only be transferred through experience and is the most difficult type of knowledge to quantify or explain. This is because tacit knowledge is acquired through *a mix of framed experience, values, contextual information, experiences and information*. Through individual experience information is transformed into knowledge in a number of ways.² First, the information about a given situation can be *compared* with other situations

that are known. Secondly the *consequences* or implications of the information on decisions and actions are considered. Thirdly *connections* are made between this piece of information and how it relates to others that are known. Finally through *conversation* other people's thoughts on a piece of information are gathered. Through these methods each individual transforms information into knowledge.

What is Knowledge Management?

Knowledge management, like knowledge, has many definitions. Information Technology experts would have us believe that knowledge management is synonymous with information management. They would have it that a good information management system, provided by information technology specialists, will resolve all knowledge management problems. However, as the definitions of information and knowledge stated earlier clearly highlight information management is not the same as knowledge management. Knowledge management is an attempt to recognise what is essentially a human asset buried in the minds of individuals, and

leverage it into an organisational asset that can be accessed and used by a wider set of individuals within the organisation. A working definition of knowledge management is “the commitment to create new knowledge, disseminate it throughout the organisation and embody it in products, services and systems”.³ Although this definition does not make it clear, knowledge management includes the dissemination and embodiment of existing knowledge in addition to the creation of new knowledge. Knowledge management includes, but is not limited to, activities such as encouraging creativity and innovation, developing knowledge management systems, creating a culture of knowledge sharing and evolving into a learning organisation.

Knowledge Management Processes

Much can be learnt from successful knowledge management practices. In recent times as organisations have embraced knowledge management in an attempt to gain a competitive edge some notable examples in successful knowledge management have emerged. General Electric (GE) is arguably the most successful knowledge-managing organisation globally. GE “not only excels at using knowledge and experience within a business, but also does something the specialists cannot, by transferring it over the whole company”.⁴ Despite consisting of ten divisions, each with a number of business units, dispersed around the globe GE manages to ensure the flow of knowledge. Ideas flow throughout the company and innovations established in one area are quickly transferred elsewhere. The culture in GE is “both deeply competitive and furiously collaborative”.⁵ This culture is key to the success of GE and has developed in such a manner that significant kudos is achieved for those who share their good ideas with a wider audience and those who retain their ideas for personal glorification are shunned. The best performers are transferred out of their comfort zone to other business units so that their knowledge can be shared and developed. GE also invests heavily in the development of knowledge. It regularly sends employees around the globe as part of its Impact Program to study innovations in business practices with the aim of having relevant innovations integrated into GE.

It also imports management expertise through an aggressive recruitment policy. These factors have contributed to GE’s productivity increase of over 5 *per cent* per annum in the last four years and demonstrate the value of the many available knowledge management processes.

Andersen Worldwide employs an information technology network as a knowledge management tool to connect 85 *per cent* of its 82,000 employees operating in 76 countries through data, voice and video interlinks. This network enables Andersen professionals to utilise the capacity of the entire organisation to solve problems. The methods used to achieve this include the posting of problems on electronic bulletin boards and “centrally collected and carefully indexed subject, customer-reference and resource files” that are available either directly through the network or through CD-ROM distributed to all offices.⁶ To make this system effective for Andersen major changes in incentives and culture were required to ensure that the network and its benefits were embraced throughout the organisation. The results demonstrate that size and dispersion of an organisation are not necessarily an impediment to effective knowledge management.

The US Army’s Centre for Army Lessons Learnt (CALL) was established to capture the truths of real situations that have been experienced rather than learnt from theory or generalisation. Personnel from CALL participate in real operations and record information for later analysis and dissemination as lessons. The lessons from CALL assisted US troops in Somalia, Rwanda, Haiti, and the Gulf. A key aspect of the success of knowledge management at CALL is the “After Action Review” program. The After Action Review (AAR) “involves an examination of what was supposed to happen in a mission or action, what actually happened, why there was a difference between the two, and what can be learnt from the disparities”.⁷ The process involves all participants in an operation or action meeting together in an environment of openness free from judgement where no blame is laid and no topic is taboo. The AAR has become a common event within the US Army and is traditionally the last event in any activity

conducted. It has contributed to the development of a knowledge sharing culture in the US Army whereby the lessons learnt that have been identified by an AAR are available for anyone within the US Defence Forces to view. This process has become so powerful that it has transcended its original intent as a tool to analyse training and operations and has become a common tool for all activities. The AAR is a powerful knowledge management tool that would provide significant benefit to Defence.⁸

Current Knowledge Management in Defence

There are a variety of knowledge management processes employed throughout Defence however they are generally employed disparately with limited coordination or attempts to harness the potential of these processes as a corporate asset. Individuals are generally supportive of knowledge management concepts and understand and accept the potential benefits of these concepts. Until recently the organisation relied upon individuals or sections to develop and conduct their own knowledge management. The establishment of a Chief Knowledge Officer and staff provides the potential to harness, coordinate and improve on existing knowledge management processes within Defence.

The transfer of tacit knowledge within Defence relies significantly on existing informal organisational structures. Tacit knowledge exchange occurs primarily within immediate work locations, either within integral sections or between sections that are geographically collocated. It is also more prevalent between sections that are closely aligned in their responsibilities and work practices. There are cases of where tacit knowledge is transferred across organisational boundaries. This primarily occurs where existing formal structures influence the interaction between staff (e.g. where meetings are organised between technical staff from different areas) or where there are strong developed informal structures. However, physical boundaries such as geographic location, information technology infrastructure and the prevalence of a strict hierarchical structure are effective barriers to knowledge management. Whilst the before mentioned examples of tacit knowledge management rely significantly on

informal processes, the transfer of staff between sections and work locations on higher duties inadvertently provides a valuable medium for the transfer of tacit knowledge. These staff bring with them to the new work environment knowledge from their previous work environment. They also gain knowledge whilst occupying the higher duties appointment and will invariably take this knowledge with them to share with co-workers at their original work location. Despite this powerful and effective method of transferring tacit knowledge that has been achieved through opportunity, no formal process of leveraging this method by periodically transferring staff to other sections to work at the same level is evident in Defence. Additionally, there is generally no intrinsic knowledge management culture within Defence that transcends boundaries other than that which exists on a limited local level.

The formal knowledge management processes within Defence include Standard Operating Procedures, Regulations, Handbooks, and databases. However, these are often dated and no longer reflect current work practices. To overcome this there is some localised development of processes that reflect practice. However these are rarely available for use throughout the organisation. Even in strict areas of discipline such as resource management change has generally surpassed written processes and in some cases rendered them ineffective. This has placed a stronger emphasis on the tacit dimension of knowledge and requires experienced workers to advise on where written processes can be found, how current they are and what the alternative processes are. This is conducted effectively at the local level but is rarely captured outside of the minds of the knowers and made available extensively across the organisation. The available information technology infrastructure is also not utilised to its full potential for formal knowledge management. Despite the use of knowledge management software within Defence there is limited use of databases to capture and distribute knowledge. There is also no formal structure to the organisation of information and knowledge stored in the infrastructure, which subsequently differs from area to area. This makes it difficult

for the stored knowledge or information to be shared with other areas. The difficulties posed by the apparent lack of coordination of formal knowledge management processes places a heavy burden on the transfer of tacit knowledge and the conduct of training.

Training has traditionally been conducted well within Defence. Courses are made available to personnel and funding to embark on individual external education is available to both military and civilian employees. Courses are identified or created that enable employees to achieve the competencies required of their particular employment. However, there have emerged barriers to the effective management of knowledge through the conduct of courses in Defence. There is a perceived lack of available time for participation in courses. Although management encourages (and in some cases mandates) attendance on courses some employees who participate are reticent to do so as they feel that while they are away on course their workload will accumulate and increase the pressure on them when they return. This hinders the development of the psychological environment that encourages learning on course. There is evidence of a “knowing-doing gap” within Defence whereby knowledge gained in training is not employed in the workplace. It is not clear why this gap exists but I can hypothesise that it may be because of the perception that knowledge gained on course does not contribute to daily work practices. It may also be a result of employees reverting to their comfort zone and continuing to operate in a familiar fashion when they return to their workplace. More research is required in this area to fully understand and be able to manage the “knowing-doing gap”. What is apparent is the normal human and professional tendency towards defensive reasoning.

Defensive reasoning is a common trait employed by professionals the world over and has also been known by the term “learned helplessness”. In general terms it can be described as the process whereby people explain the reasons for their failing to achieve something by blaming someone or something else. This is common for professionals who always strive for

the best and when they do not achieve it they find fault in something beyond their control. It is the greatest barrier to learning. In Defence there is evidence of defensive reasoning with regard to the implementation of effective corporate knowledge management procedures. The most common reason provided is that of time (or lack of) followed by a lack of resources. Other reasons include lack of conviction in one’s own ability (the value of your knowledge to others), organisational barriers and personality barriers. Although there is legitimacy in a majority of these reasons they become a product of defensive reasoning when they are blamed as the sole reason for failure to achieve something. For defensive reasoning to be overcome the reasons need to be assessed and ways in which to overcome them need to be considered, in this way lessons will be learnt and knowledge will be created. This does not mean that the reasons will magically be overcome but they will become productive rather than purely destructive. This is but one of the opportunities for improving knowledge management within Defence.

Knowledge Management Opportunities

To successfully manage knowledge there needs to be an organisational knowledge management culture. Just as it is intrinsic to human nature to want to learn we also want to share what we know with others. This provides a firm foundation for the development of a knowledge management culture. People within the organisation need to feel that there is an infinite amount of knowledge available within the organisation and from external sources that will improve them and make their work more efficient and effective. Given that Defence staff are increasingly being asked to achieve the same or more with less they should be receptive to anything that will improve their efficiency with little additional effort. This desire to be more efficient should be leveraged to develop a knowledge management culture. Additionally staff must feel that the knowledge that they have will be valuable to others in the organisation. It is not uncommon for people to feel that the knowledge that they have is irrelevant or useless to others. An understanding needs to be developed that no knowledge is useless and that

the recipient of the transferred knowledge will determine whether to retain, use or discard that knowledge. The most effective way to develop the desire to achieve a knowledge management culture is to demonstrate the benefits to the individual of such a culture. One way in which this can be achieved is to encourage the transfer of tacit knowledge and to identify the benefits achieved from this transfer.

The transfer of tacit knowledge is the most prevalent knowledge management process in Defence. However corporate investment can value add to what is essentially an informal process. The most obvious form of value adding is the adaptation of a staff transfer process between sections. This process would involve transferring staff on a temporary basis to other sections. Transferred staff would bring with them knowledge from their parent section and facilitate the transfer of this knowledge to staff within their temporary section. It would also enable the temporary staff to gain knowledge from their temporary section and take that knowledge back with them to their permanent section. This process requires little investment other than that of coordination. However it has the potential to increase corporate knowledge significantly and to establish new informal structures between staff that can continue to be utilised for the transfer of knowledge. Another method of encouraging the transfer of tacit knowledge is the encouragement of the establishment of informal structures. To achieve this staff need to be provided with the opportunity to interact with staff from other areas within the organisation. A method of achieving this is to facilitate conferences, meetings and courses where staff that perform similar functions are brought together for a period of time in order to establish informal contacts. It is likely that some of these contacts will be retained and used for the transfer of knowledge at a later date. Another method to encourage the transfer of tacit knowledge is to continue to encourage informal gatherings, whether they be organised morning teas or group discussions these provide the opportunity for staff to interact and exchange knowledge. Although there was a time where regular informal gatherings were frowned upon as a waste of time their value is now better

understood. Any area that does not employ this method of tacit knowledge transfer should be encouraged to do so not only as a method in isolation but also as a conduit to establishing lasting informal networks. A more formal method of transferring tacit knowledge is by the use of After Action Reviews.

After Action Reviews (AAR) are arguably the most powerful tool available for knowledge management. As previously described they were developed by the US Army as "a professional discussion of an event, focused on performance standards, that enables soldiers to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses".⁹ The AAR process is underpinned by behavioral science principles that contribute to AAR methods, practices and products. The AAR is being implemented at the Australian Army Combat Training Centre in an attempt to mirror the successes of the US Army. Although a version of this process is used to a limited extent after major activities in Defence the full potential of the AAR has not been realised. This process can be used after every activity, regardless of how big or small, to facilitate the learning of lessons and the development of knowledge. The AAR involves taking a subjective look at an activity and identifying all of the processes involved in that activity. All participants in the activity should be involved in the AAR in order to ensure that all aspects of the activity are addressed. The most difficult aspect of the AAR is the development of an environment where judgement is not passed on individuals for mistakes made and participants must feel that they can raise issues without repercussions (particularly when these issues are raised against superiors). This environment will take time to develop and will likely do so in conjunction with the development of a knowledge management culture within Defence. The AAR involves identifying what happened during an activity, why it happened and how the activity can be improved next time or how can lessons from this activity be incorporated in other activities. The key to the activity is acknowledging that all participants have valuable insights into the activity and can contribute to the AAR. Every

identifiable element of the activity should be addressed and any lessons should be recorded. Recording of the AAR forms a crucial element to ensure that lessons are captured. Additionally, the process of following-up actions that are derived from the AAR must be coordinated and changes implemented as soon as possible. The effective use of the AAR process has the potential to save considerable time and resources by reducing the incident of repeated mistakes. The lessons learnt from an AAR of an activity also offer the opportunity to develop efficiencies that will improve work practices. However the benefits derived from the AAR process will be localised unless an effective IT infrastructure is available to capture the lessons learnt and transfer them throughout the organisation.

Although not the solution to knowledge management problems an effective IT infrastructure is crucial to managing knowledge in a modern organisation. Defence has the framework of an effective knowledge management system in its existing network and through access to the World Wide Web.

The development of databases to store knowledge such as lessons learnt will provide the ability for storage and retrieval of knowledge throughout the organisation, and therefore effective knowledge transfer. This could take the form of dedicated databases for specific functions but the content of these databases must be viewable by everyone within the organisation. Restricting view access will restrict knowledge transfer. If dedicated databases are employed a search engine capable of cross-database searching must also be employed. This will reduce the time taken to search and will ensure that all available knowledge on a subject is readily available to everyone. Additionally, all staff must have the ability to submit knowledge for inclusion on a database otherwise valuable knowledge will be lost. "Knowledge management systems seem to work best when the people who generate the knowledge are also those who store it ...".¹⁰ However, to avoid inundation of the database expert staff should be responsible for deciding what will reside on the database and for how long it is to remain, as well as assisting IT staff to structure the database. IT

staff should be responsible for maintaining the database (but not the contents). Beyond the Defence network there is the opportunity to share knowledge through the Defence Intranet and the World Wide Web. The benefits of leveraging the Defence Intranet and the World Wide Web for the management of knowledge in a construct that includes the wider Defence community are significant, despite the concerns with access and security within the Defence IT community. The most significant of these benefits is the ability to grow knowledge with Defence customers. Not only can personnel from within Defence learn lessons from their customers but they can also educate their customers. This has the potential to contribute to a wider Defence knowledge management network. However the success of any IT system as a knowledge management tool relies on commonality.

A common set of IT tools for actions such as word processing, spread-sheeting and presentations will facilitate the transfer and accessing of knowledge. If different tools are used throughout the organisation then the transfer of knowledge becomes difficult and laborious and is therefore impeded. The apparent trend within Defence is that the personal preference of an individual able to influence the procurement of IT tools is the key to which tools are procured. This has led to a plethora of different tools throughout Defence. Individuals also import personal preference tools from home when they are not comfortable with the tools available at work. This not only impedes knowledge management but is also not good business sense. The more tools used in an organisation the larger the support base required to maintain them and therefore the larger the cost. Given that most of the commercially available tools perform essentially the same tasks (but in different ways) there is no real reason for having more than one type within an organisation. Making a strategic decision to adopt one type of tool and then remaining with that tool (and prohibiting the use of other tools) will significantly enhance knowledge transfer.

Conclusion

The most important aspect of knowledge and knowledge management is the human element. It

is this element that adds value to information to create knowledge by comparing it to other information, determining what the consequences of that information are, making connections between the information and other information and finding what others think of that information through conversation. Knowledge management involves the creation, collection and transfer of knowledge and the implementing of this knowledge into everything that the organisation does. Although it would be easy to mistake knowledge management for just another business management fad it actually represents the opportunity to harness an organisation's existing assets to increase effectiveness. It is an activity that has been conducted in a less coordinated and informal manner for thousands of years, dating back to the transfer of knowledge by the tribal storyteller. Lessons can be learnt from organisations, both civil and military, that have established successful knowledge management practices and have achieved remarkable results.

There is some knowledge management conducted within Defence, however this is primarily at a local level and does not transcend across the organisation. Some effective knowledge transfer across boundaries and between sections that are collocated or concerned with similar function is achieved. However there is little coordinated knowledge management effort and no developed knowledge management culture. Physical (generally geographical) and psychological boundaries exist to hinder effective knowledge management and the overall corporate effort to overcome these boundaries is in its infancy. Management of explicit knowledge in the form of SOPs etc. are either dated, non-existent or are not easily accessible by those that require the knowledge.¹¹ There is a genuine effort to encourage the transfer of tacit knowledge however this is limited to existing formal and informal structures with limited effort to expand these structures. Defence staff acknowledge that they could achieve more with knowledge management but often resort to defensive reasoning to explain why they have not implemented more. The most common reason given for failing to achieve more is a lack of available time. Although there is some legitimacy

in this claim it is necessary to understand that time spent in implementing effective knowledge management will likely return time savings far in excess of that invested. For this to be achieved some basis overarching knowledge management procedures need implementing.

Implementation of the AAR process provides the single greatest opportunity for harnessing the knowledge resident within an organisation. It will provide the potential to achieve significant efficiencies in resource expenditure and increase corporate outputs. However its benefits will be limited to localised benefits unless an effective IT infrastructure is established to capture knowledge and make it readily available to those who need it anywhere within the organisation. The establishment of the AAR process and an IT knowledge management infrastructure, combined with methods to facilitate the daily transfer of tacit knowledge, will significantly enhance Defence's productivity and will, in time, develop a knowledge management culture that transcends the entire organisation.

Knowledge management represents the best opportunity to achieve efficiencies within Defence. Most of the investment has already been made in creating the knowledge and relatively small resources need to be invested to manage that knowledge and make it available to the entire organisation. The foundations for an effective knowledge management ethos and an intrinsic knowledge management culture already exist within Defence. Allocation of dedicated resources for knowledge management will provide the potential to deliver Defence as a world class organisation and enable it to achieve its outputs with diminishing resources.

NOTES

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11. This is due to individuals not having access to the information through IT systems or not knowing of their existence.

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British Recapture of the Falkland Islands – A Triumph of Direct or Indirect Strategy?

By Major Dennis Malone, RAAC

All men can see these tactics whereby I conquer, but what none can see is the strategy out of which victory is evolved.

Sun Tzu, *The Art of War* – 500 BC

It is not every day that British territory is invaded and the House rallied to the flag...As the sense of humiliation of the Government deepened...The British Lion is caught with his trousers down.

Michael White in *The Guardian*

On 19 March 1982, Argentina initiated the Falkland Island conflict by landing 30 scrap metal salvagers on South Georgia Island and raising the Argentinean flag. These salvagers were followed by Argentinean combat troops and British control of the Falkland Islands was lost to Argentina until their recapture by British military forces and the subsequent cessation of hostilities on 20 June 1982. Two hundred and fifty-five British servicemen and civilians and over 650 Argentines lost their lives; many more on both sides were wounded.

This article explores the strategy used by the British in 1982 to recapture the Falkland Islands. Andre Beaufre, a French strategy theorist, states that the aim of strategy is to produce a certain psychological effect on the enemy. The psychological effect being to ultimately convince the enemy that it is useless to start, or continue, a struggle.¹ The effect may be achieved by military victory but it is not the only way. Other methods, indirect methods, may be more effective. Using the key ideas of the theorists Liddell Hart and Andre Beaufre, this article will determine if the British recapture of the Falklands Islands was a triumph of direct or indirect strategy.

Background

The actual motivation for Argentina's April 1982 invasion was an immediate threat to the ruling military junta. Internal instability within Argentina threatened the dictatorship. Massive unemployment, low wages and an inflation rate of over 100 per cent were fuelling popular political dissent.²

The Junta needed a uniting diversion to distract the public and maintain domestic control. The Falklands, which every Argentinean had grown up to believe was theirs, was the obvious choice. Argentine military strategists believed that seizing the Falklands would be met with only token resistance from the British, followed by acquiescence.³

On 26 March 1982, 100 Argentinean troops landed at South Georgia. On 2 April 600 Argentinean marine infantry and 200 commandos conducted an amphibious landing at Stanley Harbour on East Falkland Island. The

British garrison resisted for three hours, killing 40 Argentinean marines, before being ordered to surrender by the Governor of the Falklands. Within 24 hours of the surrender over 4000 Argentinean troops were on the Falkland Islands.⁴ On the day following the invasion two facts dominated world opinion; the lightning speed of the Argentine invasion and the use of aggression to settle an international dispute.⁵

The Recapture – British Political Objectives

His true aim not so much to seek battle as to seek a strategic situation so advantageous that if it does not in itself produce the decision its continuation by battle is sure to achieve this.

Liddell Hart, 1954.

The British Government announced the dispatch of a military Task Force to the South Atlantic on 3 April,⁶ within 24 hours of the Argentinean occupation of Stanley. This

declaration was the outcome of a meeting held in the House of Commons on 31 March, 48 hours prior to the Argentinean landings. The Argentine invasion had been anticipated and was discussed at this meeting. Admiral Leach, head of the Royal Navy, stated that nothing could be done to deter the expected invasion of the Falkland Islands, however the Royal Navy could mount what Leach called a “Retrieval Force”. Leach stated that this force, consisting of a Marine Commando Brigade, landing ships, two aircraft carriers and necessary escort could be dispatched within days.⁷ The meeting also discussed the Task Force transit time to the South Atlantic of three weeks. At the time of this initial meeting it was expected that the three-week transit time would allow “the United Nations and world diplomacy the opportunity to persuade the Argentineans to withdraw from the Falklands peacefully”.⁸ Two comments concerning British strategy can be made at this stage. First, the Task Force was being dispatched for possible use only in the event that diplomacy failed to remove the Argentineans within the Task Force transit interval. Secondly, further political decisions would be required before armed force was used.

The British Government wanted the Task Force to represent a “bargaining signal”, a demonstration to Argentina of how seriously Britain considered the issue.⁹ This demonstration of British resolve would support the diplomatic and economic efforts being simultaneously employed by Britain to restore the Falklands to British control. Britain’s first priority was to obtain a United Nations Security Council (UNSC) Resolution denouncing Argentina’s aggression and demanding its withdrawal.¹⁰ The British ambassador to the UN, Sir Anthony Parsons was able to secure UNSC Resolution 502 which:

- (a) Demanded an immediate cessation of hostilities;
- (b) required Argentina to withdraw its forces from the Falklands immediately; and
- (c) instructed both sides to work out their differences diplomatically, abiding by the principles of the UN Charter.¹¹

This UNSCR was important in that it provided the British with United Nations support

for actions taken in self-defence as well as allowing the British Government to argue that Argentina would have to withdraw before London would make any concessions. Britain’s European partners quickly demonstrated support for Britain and announced an embargo on arms sales to Argentina, as well as economic sanctions. Britain also received many public messages of support from heads of state around the world.¹² On 12 April the British announced a maritime exclusion zone 200 miles around the Falkland Islands, and declared that any approach of Argentine ships or aircraft that were determined to be a threat to the British Task Force “would be dealt with appropriately”.¹³ In effect a maritime blockade had been established. In addition to the UNSC Resolution, the arms and economic sanctions, and the “blockade”, Britain became involved in political diplomatic efforts to resolve the issue. Political negotiations were largely mediated through the United States Secretary of State, General Alexander Haig. Haig travelled backwards and forwards between London and Buenos Aires in a sustained effort to mediate a peaceful solution in the interval between the dispatch of forces and their arrival in the South Atlantic. During these negotiations the British indicated they would consider halting the Task Force to discuss the future of the Falklands if the Argentineans observed the terms of the UNSC Resolution. However the Argentineans were not willing to leave until their rights to full sovereignty were acknowledged.¹⁴

British Strategy—Strategic Level

Grand Strategy

Francis Pym, British Foreign Secretary, stated, “the British policy was one of diplomatic, economic and military pressure upon Argentina, designed to achieve a peaceful settlement”.¹⁵ Britain, he told the House of Commons, “... had a clear and decisive preference for a negotiated settlement. Military pressure, however, was necessary to bring Argentina to negotiate seriously and to strengthen the British negotiating hand”.¹⁶ The military Task Force was not initially intended to be the decisive instrument in resolving the issue. The British were seeking a resolution by methods other than a direct clash

between military forces. Liddell Hart emphasised that the perfect strategy is to produce a decision without any serious fighting. Grand Strategy, according to Liddell Hart, serves to bring out the sense of “policy in execution”. The role of Grand Strategy is to coordinate and direct all of the resources of a nation, ... toward the attainment of the political objective of the conflict.¹⁷ The government responsible for the strategy of the war has to decide whether strategy should make its contribution by achieving a military decision or otherwise. Military means is only one of the means of Grand Strategy.¹⁸ Grand Strategy encompasses an indirect approach at the highest strategic plane when it expounds on means other than military action. It also includes the ability to apply “power of the financial pressure, of diplomatic pressure, of commercial pressure and ... ethical pressure to weaken the opponents will”.¹⁹ Liddell Hart emphasised that traditional British strategy seemed to have been indirect-by blockade, diplomacy or subsidy. As stated above by Francis Pym, the British initially intended to use this indirect strategy to resolve the Falklands conflict.

British Strategy - The “Exterior Manoeuvre”

The British strategy discussed above is consistent with Andre Beaufre’s theory of Indirect Strategy. Beaufre states that Indirect Strategy is “a tough form of negotiation”. The likelihood of success of any particular operation is dependent on the success of action on the worldwide plane. Beaufre describes this as the “Exterior Manoeuvre”. A central feature to the exterior manoeuvre is to assure oneself the maximum freedom of action while at the same time paralysing the enemy by a multitude of deterrents. These deterrents will be primarily psychological and will include political, economic, diplomatic and military measures all combined towards the same end – to create a psychological impact on the enemy. Beaufre emphasises that strategy is a dialectic of wills and that a decision is achieved when a certain psychological effect has been produced within the enemy. Certainly the British sought to produce a psychological effect on the Argentinean Government through the attained UNSC Resolution, the arms and economic

sanctions, the international support for the British, the diplomatic negotiations and the military build-up and deployment to the South Atlantic.

British Strategy – “The Interior Manoeuvre”

Having secured freedom of action through the exterior manoeuvre, Beaufre’s indirect strategy next calls for manoeuvre to be employed in the geographical area where it is desired to obtain results. Beaufre termed this as the “interior manoeuvre”. The main components of the interior manoeuvre are material force, moral force and time.²⁰ The objective of the interior manoeuvre is to rapidly, using superior material force, reach and attain intermediate physical objectives within the limit of the external freedom of action. This capturing of intermediate objectives should be interspersed with negotiations.

The British employed the interior manoeuvre when they conducted the attack and recapture of the island of South Georgia. Even though the dispersal of forces is against normal military doctrine the British War Cabinet, supported by Admiral Lewin (Chief of Defence Staff), ordered that an element of the Task Force recapture South Georgia prior to a main attack of the Falkland Islands. This decision reflected the War Cabinets strategy of escalating military action by a series of steps, to demonstrate British resolve and capability, and that this would perhaps induce a voluntary Argentinean withdrawal from the Falklands. This was a rapid decision, made in London on 7 April, only four days after the Argentinean capture of the South Georgia Island.²¹

A further intermediate objective was the establishment of a Total Exclusion Zone of 200 miles around the Falklands. Ships or aircraft, of whatever country, were liable to attack if they were carrying reinforcements or supplies to the Argentineans in the Falklands. The British plan was to allow for approximately two weeks of military maritime action over and around the Falklands to draw the Argentinean Air Force and Navy into battle and defeat them before the British landing force arrived. This proposed two-week interval also allowed for time for a diplomatic solution to be reached or for the

Argentines to realise their danger and withdraw from the island.²²

Negotiations Fail - The Use of Military Force

Having made no progress through the United States led Haig or United Nation mediated negotiations, with no sign of Argentine resolve diminishing and despite the successful re-capture of South Georgia and the sinking of the Argentine Warship *Belgrano*, Thatcher no longer believed that the Argentines were negotiating in good faith. The British perception was that the Argentine Government was playing for time, and with the onset of winter only weeks away, time was something that the British Task Force did not have.²³ Despite this, a final attempt to diplomatically resolve the issue was made by the British on 16 May. The agreement proposed that the Falklands would be placed under the control of a UN administrator agreeable to both parties, along with an Argentine representative. Further negotiations would then commence with the aim of achieving a solution by 31 December that year. The Junta rejected the proposal.

Thatcher was aware that the Task Force was an “exhaustible” option. Thousands of miles from its closest support base, the Task Force would quickly become incapable of recapturing the Falklands. Eventually the British would have to employ the Task Force or the Argentines would succeed by default.²⁴

A New Strategy

Strategy consists in choosing the most suitable means from those available... to produce psychological pressure sufficient to achieve the moral effect required.

Andre Beaufre, 1965

The time for resolving the Falklands crisis by other than military means had passed. The “perfect strategy” as viewed by Liddell Hart, that is to produce a decision without any serious fighting, had eluded the British. Indirect strategy had proved unsuccessful for the British and preparations for a military operation to recapture the Falklands began. Beaufre states that the art of strategy consists in choosing the most suitable means from those available and so orchestrating their results that they combine to produce a

psychological pressure sufficient to achieve the moral effect required. The “tough form of negotiation” did not produce the effect required. The British therefore had to adapt their strategy for the recapture of the Falklands. Military force was now the principle means by which the British hoped to attain their strategic objectives. Britain was seeking to impose its will on Argentina by defeating its armed forces in battle. The strategy of attainment of objectives through decisive military victory is in the category of direct strategy.²⁵ Andre Beaufre describes direct strategy as the classic violent conflict aiming at military victory, involving either the destruction of the enemies’ armed forces or the occupation of their territory or both.²⁶ The British intentions became clear when Thatcher announced to Parliament “any ceasefire now would simply allow the Argentines to consolidate their positions on the Islands”.²⁷ Once military operations were underway Thatcher was firmly opposed to reverting to diplomatic measures, which might interfere with their momentum.²⁸

Strategy - The Operational Level

The choice of tactics is in fact strategy.

Andre Beaufre, 1965

British troops landed at San Carlos, East Falkland Island, on 21 May. San Carlos was chosen as the location as it provided the best compromise for the Navy and Army needs, however it weighed heavily in favour of the Navy needs. The Navy required an anchorage as secure as possible against bad weather and Argentinean air attack. The Army needed a short approach march to Stanley and short lines of communication.²⁹ The San Carlos landing would be unopposed by Argentine ground troops but was approximately 50 miles of almost trackless expanse from Stanley.

The Argentinean forces, commanded by Brigadier General Menendez initially assessed that the San Carlos landing was a diversion. Menendez believed that if a diplomatic solution could not be achieved between the two nations then the British main force would land close to the Stanley township. The Argentinean military hierarchy assessed that a landing at or near the main objective, supported by gunfire, even

against a defended beach, was preferable from a long march over trackless terrain. That was how the Argentines had captured Stanley and that was how Menendez anticipated the British would return. Menendez had kept his best troops and his main strength in the Stanley area. The British had suspected this and conducted deception operations using amphibious craft to bolster this belief.³⁰

Following the San Carlos landings the Argentines contemplated the reinforcement of the Falklands, and in particular Goose Green, from the mainland. Menendez requested a "Cordoba Air Transportable Brigade" be flown from Argentina into Goose Green so that it could attack the vulnerable British beachhead. This request was refused due to the threat of British Sea Harriers intercepting the transport aircraft.³¹ The Argentine forces occupying the Falklands were isolated from the mainland by British sea and air action.

The Point of Main Effort – Stanley

At the operational level, the British objective was always acknowledged to be Stanley; whoever controlled Stanley controlled the Falklands.³² In response to orders to move out of the beachhead and "invest the Stanley defences", Brigadier Thompson (British Land Forces Commander) moved the main strength of his Brigade across high ground which ran the length of the East Falkland Island. Because of a lack of helicopters the deployment was by foot and was physically demanding on the British soldiers. The move was unexpected and unopposed by Argentinean forces and had been achieved within seven days of the order to move from the beachhead. The British moves across East Falklands had brought the two sides to the verge of the final climax of the conflict, the confrontation battle of Stanley.

The Argentine forces at this time consisted of approximately 11,000 personnel. Two thousand of which were deployed on the West Falkland Island and could not influence the Stanley battles. The Argentinean defences were strong but were primarily sighted to face a landing either on the airport peninsula to the east of Stanley or the beaches to the south.³³

By approaching Stanley overland from the west and not conducting an amphibious assault the British had avoided the strength of the Argentine defence and were well postured for the capture of Stanley. British commanders discussed the attack for the capture of Stanley in detail on 8 June. The attack was to be conducted in three phases on a narrow front. The initial two phases were to capture key terrain dominating the approaches to Stanley and the third phase was the capture of the township. During the planning, Brigadier Thompson stated, that the advance to Stanley was nothing like fighting a manoeuvre battle in north-west Germany, with which the Army was thoroughly familiar but the Royal Marines were not.³⁴ The Stanley attack would be a deliberate and slow infantry assault. The first two phases were to occur over two consecutive nights. Having captured the terrain dominating the approaches it was anticipated that the Argentines would surrender before a bloody and costly third phase urban battle in the Stanley township.³⁵ The plan was successful.

The Operational Strategy

In the operational sphere the essence of this is not to "take the bull by the horns" in other words not to challenge the enemy to a direct trial of strength but to attack him only after he has been shaken, surprised and thrown off balance by an approach from an improbable direction, which he therefore did not expect

Liddell Hart, 1954.

At the operational level the British achieved a favorable situation through movement, deception, dislocation. These factors brought about decisive results and the capitulation of Stanley. These elements of strategy are consistent with Liddell Hart's theory of the "Indirect Approach", the aim of seeking dislocation rather than battle and the sequel being either the "enemies dissolution or his easier disruption in battle".³⁶ As discussed by Beaufre, "the object of the indirect is the attainment of military victory; it is only the preparatory manoeuvring for this victory which is indirect".³⁷ It must be noted therefore, that the indirect approach is a category of direct strategy.

Liddell Hart states that only when the enemy is dislocated physically and psychologically is the

strategy truly an indirect approach.³⁸ Physically the British upset the Argentinean dispositions. The British avoided the Argentinean strengths by landing at San Carlos and advancing, overland, from an unexpected direction.

The British main effort assaulted “through the back door” of Argentinean defences.

The Argentineans could not reinforce or retreat. The British had achieved this dislocation on three levels. First, maritime operations around the islands denied transport or logistic vessels reinforcing, re-supplying or evacuating the Argentine forces to or from the mainland. Secondly, Argentine forces on West Falkland Island were effectively bypassed by the British and played no role in the conflict. Finally, movement and reinforcement of Argentine forces within East Falkland was denied due to the British destruction of Argentine helicopters and maintenance of aggressive air patrols over the Island.

Psychologically, British deception operations attacked the command and control of the Argentinean command. Menendez remained uncertain of the British main effort and intentions. This dilemma caused him to hesitate and keep his force postured for an amphibious assault on Stanley. Psychological dislocation is the result of the impression on the commanders mind of the physical effects described above. Psychological dislocation fundamentally springs from the sense of being trapped.³⁹ The Argentinean forces were psychologically dislocated from their mainland. They were “trapped” by the British on East Falkland and could not be evacuated or reinforced.

Liddell Hart states that if a military decision is to be achieved then the commander’s responsibility is to seek the most advantageous circumstances in order to produce the most profitable result. The aim is not so much as to seek battle as to seek a strategic situation so advantageous that it does not in itself produce the decision, its continuation in battle is sure to achieve this.⁴⁰ The three-phased attack plan of Stanley is relevant to this key idea of Liddell Hart. By initially capturing the key terrain surrounding Stanley the British produced the “advantageous situation”. The Argentine

commanders identified the hopelessness of their situation and capitulated before the battle for the township commenced.

Conclusion

We went to recapture what was ours. We had to do it by military means because the Argentines would not leave peacefully. We condemned their military adventurism. We were perfectly right to repossess what was already ours and look after and defend British subjects. That is not a military solution. That is repossessing what we should never have lost...

M. Thatcher, June 15, 1982

This article has focussed on the strategic and operational strategies employed by the British to recapture the Falkland Islands in 1982. The recapture of the Falkland Islands was, in the end, a triumph of direct strategic strategy and the indirect approach. It should be noted however that the British Government resorted to the direct strategy only when other methods had proven unsuccessful. The initial British grand strategy attempted to employ “indirect” means to regain the Falkland Islands. Through the combined application of financial pressure, diplomatic pressure, ethical pressure, commercial pressure and fighting power the British Government attempted to regain the Falkland Islands by means other than direct military confrontation. This style of strategy, a “tough form of negotiation” as discussed by the theorists Liddell Hart and Andre Beaufre, allowed the British to generate and maintain important international and domestic support for their cause. Indirect strategy is exhaustive and was eventually unsuccessful in removing Argentinean military forces from the Falklands within the time available. The Argentine Government refused to accept a negotiated settlement, however the pursuit of an indirect solution did establish a political and military situation favourable toward the British for the subsequent military confrontation. Within the framework of this direct strategy, the British military operation to recapture the Falkland Islands was through the employment of the indirect approach. The indirect approach is a key idea of Liddell Hart, advocating a war of

manoeuvre to out-think and out-flank the enemy psychologically as well as geographically. Central to the theory of the indirect approach is the concept of attacking the point of least resistance along the line of least expectation. Liddell Hart states that only when the enemy is dislocated physically and psychologically is the strategy truly an indirect approach. The British achieved this dislocation. Deception operations and approaching Stanley from the line of least expectation attacked the psyche of the Argentine hierarchy, keeping them on the “horns of dilemma”. This psychological attack was reinforced by isolating the Argentine forces, denying them reinforcement or withdrawal. Physically the British advanced and attacked along the path of least resistance. This approach minimised the fighting and resulted with the early capitulation of Stanley. It is exactly this approach that Liddell Hart had advocated in 1954, when he stated that “the true aim of strategy is not so much to seek battle as to seek a strategic situation so advantageous that if it does not in itself produce the decision its continuation by battle is sure to achieve this.”⁴¹

NOTES

1. Andre Beaufre, *Introduction to Strategy*, London: Faber and Faber, 1965, p. 23.
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3. William Fowler, *Battle for the Falklands: Land Forces*, London: Osprey, 1983, pp. 3-5.
4. Adrian English, *Battle for the Falklands: Naval Forces*, London: Osprey, 1983, p. 5.
5. F. Hoffman, *Sovereignty in Dispute: The Falklands/Malvinas, 1493-1982*, Colorado: Westview, 1984, p. 163.
6. Paul Sharp, *Thatcher's Diplomacy*, London: Macmillan Press Ltd, 1997, p. 84.
7. Martin Middlebrook, *Task Force: The Falklands War 1982*, London: Penguin Books, 1987, p. 67.
8. *ibid.*, p. 67.
9. Paul Sharp, *Thatcher's Diplomacy*, London: Macmillan Press Ltd, 1997, p. 84.
10. *ibid.*, p. 78.
11. Gregory Treverton and Don Lippincott, “Negotiations Concerning the Falklands/Malvinas Dispute”, Case Study, Georgetown University, 1994.
12. Michael Parsons, *The Falklands War*, Berkshire: Sutton Publishing, 2000, p. 45.
13. Peter Parot, *The Makers of Modern Strategy*, New Jersey: Princeton University Press, 1986, p. 808.
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15. Paul Sharp, *Thatcher's Diplomacy*, London: Macmillan Press Ltd, 1997, pp. 87-88.
16. *ibid.*, p. 88.
17. B.H. Liddell Hart, *Strategy: The Indirect Approach*, London: Faber & Faber, 1954, pp. 335-6.
18. B.H. Liddell Hart, *Strategy*, London: Faber & Faber Ltd, 1954, p. 325
19. *ibid.*, p. 336.
20. Andre Beaufre, *Introduction to Strategy*, London: Faber and Faber, 1965, p. 113.
21. Martin Middlebrook, *Task Force: The Falklands War 1982*, London: Penguin Books, 1987, p. 103.
22. *ibid.*, p. 126.
23. Michael Parsons, *The Falklands War*, Berkshire: Sutton Publishing, 2000, p. 64.
24. G.M. Dillon, *The Falklands, Politics and War*, New York: Saint Martin's Press, 1989, Ch 6.
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26. Peter Paret, *Makers of Modern Strategy, from Machiavelli to the Nuclear Age*, New Jersey: Princeton University Press, 1986, p. 789.
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29. Martin Middlebrook, *Task Force: The Falklands War 1982*, London: Penguin Books, 1987, p. 196.
30. *ibid.*, p. 313.
31. *ibid.*, p. 200.
32. *ibid.*, p. 196.
33. Martin Middlebrook, *Task Force: The Falklands War 1982*, London: Penguin Books, 1987, p.313.
34. Nicholas Van Der Bijl, *Nine Battles to Stanley*, Chatham: Mackays, 1999, p. 164.
35. Martin Middlebrook, *Task Force: The Falklands War 1982*, London: Penguin Books, 1987, p. 326.
36. B.H. Liddell Hart, *Strategy: The Indirect Approach*, London, 1967, pp. 339.
37. Andre Beaufre, *Introduction to Strategy*, London: Faber and Faber, 1965, p. 108.
38. *ibid.*, p. 341.
39. B.H. Liddell Hart, *Strategy* (London: Faber & Faber Ltd, 1954), p. 327.
40. *ibid.*, p. 325.
41. *ibid.*, p. 325

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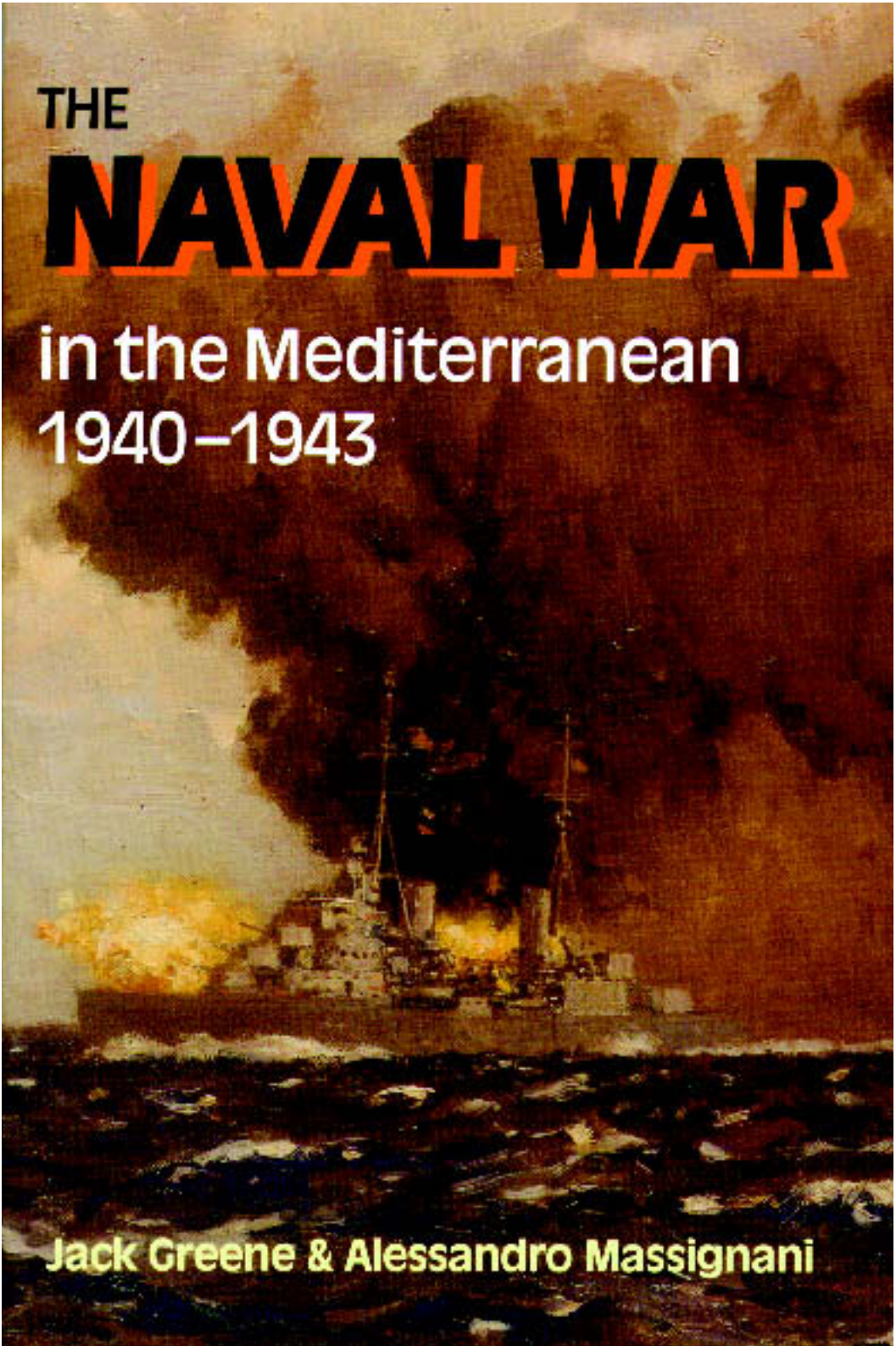


THE

NAVAL WAR

in the Mediterranean
1940–1943

Jack Greene & Alessandro Massignani



Reviews

THE NAVAL WAR IN THE MEDITERRANEAN 1940-1943 by Jack Greene & Alessandro Massignani, Chatham Publishing, London, 2002 (Paperback edition) 352 pp, index, bibliography, charts & photographs.

Reviewed by Commodore James Goldrick

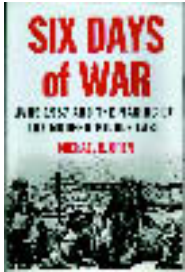
This book is the paperback edition of a work originally published in 1998. It is the result of collaboration between an American and an Italian historian with a deep interest in their subject, the maritime conflict in the Mediterranean Sea between 1940 and 1943. This is reflected by their comprehensive use of sources in the published material and the archives of all the major protagonists in this drawn out and hard fought conflict. As the authors note, a fair treatment of the subject demands familiarity with English, German and Italian – and arguably also French and Spanish. That the authors have attempted to achieve balance in their use of material and in the judgements that they make about the performance of the various actors is clear at every point. Their narrative is judicious and dispassionate, although the language is sometimes difficult to follow – it often reads like a translation – but this may be the result of one of the authors working in other than his native language. The book is not helped by a very small typeface, clearly the result of a publisher wishing to minimise the expense of a lengthy text. These difficulties mean that *The Naval War in the Mediterranean* must be read carefully but, for all that, it amply repays the effort and certainly succeeds in giving a more rounded picture of the Mediterranean war at sea than has hitherto been available. Very sensibly, the study includes treatment of the Spanish Civil War, which had an international naval dimension of considerable significance to all the future protagonists, notably the Italians.

In particular, the book describes the Italian perspective and the battle performance of the Italian Navy with much more detachment than the Italian official history but with more willingness to give credit where it was due than most accounts in English. Given the problems which the Italian Navy faced at the outbreak of the war and with which it had to contend over the succeeding three years, it is remarkable that it should perform as well as it did. The exploits of the human chariots and other small units of the Italian Navy are relatively well known, but what becomes clear from this book is the heroism which so many Italian commanders – and their subordinates – displayed when they were hopelessly outmatched by Allied forces. The materiel and technical deficiencies of the Italian Navy were always significant and worsened as time went on, but perhaps the key lesson is the way in which the limitations on both finance and organisation prevented the Italian Navy from exercising and training with its ships and equipment to a point at which their potential could be fully realised, particularly in night fighting, which was to prove a key weakness. Force structure and capability are about very much more than building programs and the clear failure of Fascist Italy was in not achieving – if it ever could – any kind of “follow through” to the grandiose armament plans of Mussolini.

This book is recommended for serious students of the Second World War, not only those concerned with the conflict at sea but anyone trying to understand the progress of the war on land. The maritime dimension of the war in North Africa is too often minimised in this context, particularly by students of the land war in North Africa. That the progress of the latter depended for both sides absolutely upon seaborne logistics is made very clear from *The Naval War in the Mediterranean*. This is a good survey of a complex subject and one that makes a substantial contribution to the literature.

SIX DAYS OF WAR: JUNE 1967 AND THE MAKING OF THE MODERN MIDDLE EAST by Michael B Oren, Oxford University Press, New York, 2002, hardbound, 480 pages.

Reviewed by Dr Hank Prunckun



In Israel and the West it is referred to as the “Six Day War.” In the Arab world it is called the “June 1967 War” or *Al-Naksah* (“The Setback”). Dr Oren argues that these six days of intense fighting in the summer of 1967 between Arabs and Israelis led to a

string of events that has reshaped, and continues to shape, Middle East politics — the Munich massacre and Black September, the Oslo Accords, the Yom Kipper War, the war in Lebanon, the Camp David Accords, the controversy over Jerusalem and Jewish settlements, the *intifada* and the present rise of Palestinian terror.

In his comprehensive history of this pivotal event, Oren presents the thesis that “never has a conflict so short, unforeseen and largely unwanted by both sides, so transformed the world”. He explains that the purpose of the book is not to prove the justness of any one of the combatants or to attribute culpability for initiating the war, but to examine the background and what precipitated it — insight.

Oren is well qualified to write such a book; he received his PhD from Princeton University in Middle East studies and is the author of the *Origins of the Second Arab-Israeli War*. In addition, he has written extensively on Middle East history and diplomatic affairs. He has also worked as an advisor with Israeli delegation to the United Nations and with Israel’s Department of Inter-Religious Affairs.

Although there have been many books written about these Six Days of War, most have focussed on the military aspects without fully considering the political viewpoints. This is understandable; the pace at which the war unfolded on a battlefield that was held holy by millions, the most daring tactical moves, and the significant players in the events (e.g. Moshe

Dayan, Gamal Abdul Nasser, Hafez al-Assad, Yitzhak Rabin, Lyndon Johnston, and Alexei Kosygin) attracted the imagination of writers and readers alike.

Moreover, many books have drawn their material from limited sources: newspaper accounts, journal articles and previously published books, mainly in English. Much of this material covered broader time periods, was very analytical, or was short on objectivity. In contrast, Oren’s *Six Days of War* has drawn on a much wider range of sources. This, he explains, was due in large part to the release of secret diplomatic documents from America, Britain and Israel in the 1990s. He was also able to access documents as a result of the collapse of the Soviet Union and the easing of press restrictions in Egypt and Jordan, as well as several important academic texts that drew on these latter sources of information. As a result, his book has been able to focus on these pivotal six days, avoid microanalysis, and sidestep judgmental conclusions.

Coupled with these new information sources — both public and classified — in languages other than English, Oren has been able to leverage the perspective of 35 years of “distance” to present a book that is a balanced study of the military *and* the political facets of the war. In doing so, he has not lost sight or had his viewpoint clouded by overlooking the fact that these were turbulent times; the leaders on both sides made life-and-death decisions, there was not the safety afforded to a historian in retrospect.

The book-in-chief contains a forward and eleven chapters. There is also a list of maps, a note on sources and spelling, a set of endnotes, a bibliography and a subject index. Oren begins by outlining the context of the war: Arabs, Israelis and the Great Powers between 1948 and 1966. He then addresses the events that acted as a catalyst; the crises that give rise the war and then the countdown leading up to the fighting. He devotes a chapter to each day of the war and concludes with a chapter that draws together the significance of this war — *...the Making of the Modern Middle East*.

The fact that this one event — these Six Days of War — reshaped Middle East politics forever

is unequivocal. However, despite all of the diplomatic and peace breakthroughs and all of Israel's military successes that have occurred since June 1967, Oren points out, Israel has still not been able to achieve the peace it craves. The essential unlaying issues are still unresolved — Israel's right to exist and the demand for Palestinian repatriation and statehood. Perhaps the revelations that Dr Oren has presented in *Six Days of War*, in some small way, will assist those involved in trying to achieve peace.

SHADOWS ON THE WALL by Stan Krasnoff, published by Allen & Unwin, 2002. 193 pages, paperback, one map, no pictures. RRP \$24.95.

Reviewed by Dr Noel Sproles



Stan Krasnoff served as a captain with the Australian Army Training Team Vietnam (AATTV) in 1967-68. For some of that time he was attached to B 36, a strategic reconnaissance unit comprised of a US cadre and 100 or so Cambodian soldiers drafted into the Vietnamese

Army. The book tells of his involvement with Project Rapid Fire and his experiences with B 36 in the latter part of 1967 through to the period of the TET offensive in early 1968.

It is difficult to ascertain if this should be considered as being a purely historical study or a historical novel because of the method of presentation and the inclusion of what appears to be embellishments to the story or the occasional application of poetic license. While the central theme of the book is the author's experiences with B 36, it also includes numerous references to his youth as a refugee, details of his experiences after his return from Vietnam, and his present feelings and emotions concerning the war. The Vietnam experiences are presented not as a day-by-day account but as descriptions of various incidents. Some of these descriptions are short, others long, but they are all full of the adrenalin pumping, heart-stopping experiences of a soldier in combat. The effect is occasionally intensified by the addition of the gory details! The author's

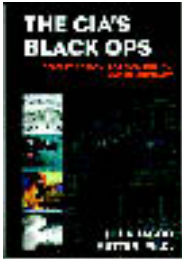
experiences on returning to Australia and his attempts to utilise the lessons learnt in Vietnam reveal his sense of disappointment and disillusionment and seem to sour the tale that he is telling. This is a pity as they detract rather than contribute to the book. On the other hand the stories of his time as a refugee in the Philippines and of his early life in Australia are skilfully woven into the narrative and serve the useful purpose of breaking up the shock of the mayhem being described elsewhere.

A central character in the story is the leader of B 36, Major James "Bo" Gritz (pronounced "Grighs"). This larger-than-life character has sometimes been identified as the inspiration for the movie "Apocalypse Now". He gained a degree of notoriety, or celebrity depending on your view, in the 1980s and 1990s for his association with efforts to mount missions into SE Asia to find US servicemen missing in action and for his right wing affiliations. In his capacity as commander of B 36, he was evidently a charismatic leader while at the same time being a "rambo" who considered himself a "warrior" as against being a "plain soldier". It is not difficult for the reader to form the impression that Major Gritz was most likely an eccentric. The author's description and obvious admiration for this complex character sets the tone for the book. At times Major Gritz's activities are so bizarre that the reader may ask if they could possibly have happened, but apparently they did.

Stan Krasnoff provides the reader with an insight into the feelings and emotions of a soldier in close contact with the enemy. He graphically describes the experience of being under hostile fire and gives some idea of what it must be like to live continuously on the edge. His book details what is probably a little known chapter in the Australian involvement in Vietnam and so contributes to the history of AATTV in particular and to Special Forces in general. For anyone interested in a study of the association between leadership and charisma, the author's experience of Major Gritz may serve as a useful case study. This book is an easy read and could be completed in the course of one lazy sunny afternoon. I feel that, at the price, the purchase of this book could be money well spent.

THE CIA'S BLACK OPS: COVERT ACTION, FOREIGN POLICY AND DEMOCRACY by John Jacob Nutter, Amherst, New York, Prometheus Books, 2000, hardbound, 361 pages.

Reviewed by Dr Hank Prunckun



This is a superbly written and documented book on the CIA's covert operations, or black ops. It draws on an abundance of information to bring the reader a comprehensive history of the topic. Although many of the events will not be new to the reader, for instance, the attempted assassination of Communist dictator Dr Fidel Castro in the 1960s, Nutter does shed new light on what these events might mean. His descriptions of the issues and events are clear and uncomplicated.

In addition, Nutter presents fascinating contextual information about the subject itself. For example, he discusses the difference between covert operations and clandestine operations; the former being an event that is not known (e.g. a break-in where classified documents — code books — are photographed) and the latter being, say, an act of sabotage, which can be “plausibly denied” by the perpetrator.

Nutter provides insights about tradecraft and terminology that assists the reader to understand the subject and sort fact from fiction (Did you know that intelligence officers never use the phrase “terminate with extreme prejudice” in relation to political assassination? Well, they don't. The phrase is an invention by fiction writers. In the world of black ops, it's simply “terminate.”). There are full descriptions, with illustrative accounts, of such concepts as political action versus covert political action, as well as covert war and proxy war. Nutter also examines the concepts of espionage and intelligence gathering and demonstrates how they dovetail with black ops. Again, these issues will not be ground breaking to most readers but Nutter has presented them in a most articulate and precise manner — he fits them into a logical framework

that systematically leads the reader through a treasure-trove of historical information, commentary and analysis.

Some of the book's illustrative material is presented in endnotes that not only detail valuable sources of information but also provides explanation about the particulars raised in the body of the text. Nutter's research has been extensive, calling on previously published books, scholarly journal articles, Senate reports, newspaper accounts, and documentary interviews with key players. One of the appeals of this book is that it has synthesised this large volume of disparate information, bringing together the kernel of the ideas.

The only reservation I had was from a personal point of view, one that may not be shared by other readers. Nutter presents his history by way of the thesis that covert action is morally wrong. Reading *The CIA's Black Ops* gives one the distinct feeling of *déjà vu* — that one is reading something that could have been written by Marchetti and Marks (*The CIA and the Cult of Intelligence*, 1974), Snepp (*Decent Interval*, 1977), Stockwell (*In Search of Enemies*, 1978), Marks (*The Manchurian Candidate*, 1979), or Agee (*Inside the Company*, 1975; *Dirty Work*, 1978; and *On the Run*, 1987).

However, to be fair, *The CIA's Black Ops* doesn't contain anywhere near the same degree of moralising that was exhibited by the “kiss-and-tell” authors just mentioned. It is more like a fortified version of Bamford's *The Puzzle Palace* (1982). Nevertheless, it certainly isn't in the same league as Godson's *Dirty Tricks* or *Trump Cards: US Covert Action and Counterintelligence* (1995), which to me remains the pre-eminent historical work on covert action.

Nutter's righteous message, in my view, detracts from what would otherwise be a valuable account of this important instrument of political influence. For instance, Nutter poses this question in his opening: “Why did covert action become so important that many times and places it became a substitute for a coherent foreign policy”? Well, the answers are numerous, as Nutter himself acknowledges, including, “Covert action permitted decision makers to do something

in difficult or ambiguous circumstances where they didn't want to act".

Obviously there are many more motives that could be debated, pro-and-con, but the fact remains that covert action is a feature of the world of realpolitik. To believe otherwise is to show the same naïveté US Secretary of State Henry L Stimson displayed in 1929 when he advanced the dictum, "gentlemen do not read each other's mail".

When Stimson learned of the existence of Herbert O Yardley's "Black Chamber" he rejected the argument that the ends justified covert code-breaking ops. Stimson strongly disapproved of Yardley's clandestine activity, regarding it a low dirty business that violated the principle of mutual trust upon which, in Stimson's view, foreign policy should be based. Stimson then shut down Yardley's Black Chamber. Well, history has shown the fate America suffered in the years leading up to the Second World War because of Stimson's decision.

The post-Cold War global community faces threats different from those of the past. There are non-traditional challenges for which the state-centric paradigm no longer applies. We face threats from weak and corrupt governments, rogue states, sub-state and trans-state actors, as well as criminal, radical ethnic, racial and religious groups, and ultra right-wing political groups; all openly defying international control.

Pointing to the terrorist events of 11 September 2001 and the Bali bombing on 12 October 2002 as only two examples of such threats, I raise the question, "Is Nutter's proposition not reminiscent of Stimson's dictum"? I admit that Nutter's intent was not to write a purely objective history (He makes this clear in his opening pages). What he does is to question a principle central to the governing of a democratic society: "Does secret power corrupt secretly"? I would reply, "Can free societies continue to tolerate groups that if they came to power would destroy the freedoms that tolerated them"?

In terms of physical presentation, the book's 361 pages are printed on high-quality paper stock

and bound in a hardback format. It has a glossy full colour dust jacket. With regard to layout, the book is divided into five parts with about four chapters in each — twenty chapters in all. There is an acknowledgement section and introduction by the author. The book has a glossary of terms and a reasonably detailed subject index in addition to a table of contents. For those interested in pursuing further research on black ops, Nutter has provided a very helpful list of references on pages 349 to 353.

Overall, *The CIA's Black Ops* is well written by an author who has studied the subject for some years (Nutter holds a PhD in political science and has taught at the University of Michigan on the topic of covert action). Despite my personal reservations, it is without a doubt a valuable reference book that deserves a place on the shelf of every intelligence officer and researcher library.

THE OXFORD HISTORY OF THE TWENTIETH CENTURY, edited by Michael Howard and Wm. Roger Lewis, Oxford University Press, New York, 1998 (reissued 2002.) Soft cover, 458 pp. \$39.95.

Reviewed by Wing Commander John Steinbach



Anyone on this planet for the last 50 years or so will reckon the 20th century has been the most dynamic, in a multitude of directions, but not all towards mankind's betterment. Indeed in the closing essay of this collection, Lord Dahrendorf writes that if we are not sure what is right and good and just, we can try and find out; but trying means erring so we need institutions to provide the means to correct those errors and above all, to never give up trying to enhance the quality of life. If that is "good" progressiveness, he adds we have not done all that well in the last hundred years, that enlightened values have been violated as often as extolled, to which some of the 27 chapters of this book bear ample testimony.

This century has seen it all and to put it into any sort of perspective requires a careful choice of themes, events, places and people to bring together its meaning if at all possible. To this end, the book has five parts: the first examines the framework under headings suggestive of what has made the century unique—urbanisation, physics, the expansion of knowledge, economic growth, a global culture and the visual arts; Parts II and III cover, broadly, its history—1900 to 1945 under the rubric of The Eurocentric World and 1945-1990 as that other great continuity, The Cold War. What happened outside the orbit of superpower play is dealt with in Part IV, The Wider World, and it is here, in one of the shorter chapters whose title gives away the Anglo-centric nature of this book, The Old Commonwealth: The First Four Dominions, that we encounter, briefly Australia. Anglo-centricity aside, the OUP and the editors have assembled a glittering array of specialists and generalists to write the chapters. Howard himself covers the two world wars, Lawrence Freedman the Cold War, Anne Deighton the rebirth of Europe, William McNeill on demographics (the world's population tripled between 1901 and 2000!) while Steven Weinberg, a 1979 Noble Laureate for Physics writes of the developments in his field which must surely rate as among the most impressive intellectual achievements of all time. Interestingly, the photograph on the book's cover is of the first hydrogen bomb test at Eniwetok in 1954. Could this become the symbol of the immediate past century as Queen Victoria was of her age? And what does that say of the 20th century? Some historians would argue that it is still too early to make sense of it; could we see a definitive history 50 years on and in what way will it be revisionist, will it be kinder to us?

The rest—Asia, South America, the Middle East and Africa—more than 70 per cent of humanity, is covered in 100 pages, about one third of the book's text. Finally there is an extensive bibliography and a chronology under "Politics and International Relations"; "Science, Technology, and Medicine"; and "Culture". With that in hand, we can quickly discover that in the year of Stalin's death, W. Le Gros Clark exposed "Piltdown Man" as a hoax; that the IBM

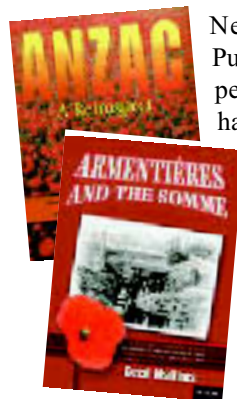
650 Computer, the first to be manufactured in large numbers had a memory capacity of 1,000 10-byte words; that the heart-lung machine was first used successfully; that Arthur Miller wrote *The Crucible*, and that an American rocket-powered plane flew at over 1,600 mph!

There are other histories of the 20th century and different approaches to writing about it. Martin Gilbert's *A History of the Twentieth Century* does so chronologically, devoting 10-15 pages to each year. With that each year takes on a certain prominence but the big themes do not get explicitly developed. David Reynolds' *One World Divisible: A Global History since 1945* manages to provide a chronology as well as reflection but then it only covers the world post-World War II.

The Oxford History's strength lies in its selection and treatment of themes to unravel the century's quintessence, by some of the most distinguished historians of the English-speaking world. It is a rich, complex history, not always easy reading but ultimately rewarding.

ANZAC: A RETROSPECT and ARMENTIÈRES AND THE SOMME by Cecil Malthus, Reed Publishing, New Zealand, RRP: \$24.95 each.

Reviewed by Air Commodore Mark Lax



This pair of books from New Zealand's Reed Publishing offer the reader a personal view of two of the hardest fought and defining battles of World War I. Cecil Malthus, one of our Anzac colleagues from across the Tasman, was a private in the 1st Canterbury Battalion and rose to the rank of Sergeant before being wounded and returning home, later to take up an academic career. Apart from illness and a rare spot of leave, Malthus spent most of his time at the front and so was well placed to give us these very personal accounts of the war.

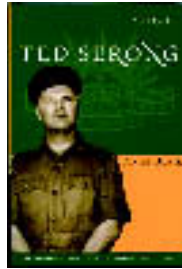
The first book, *Anzac: A Retrospect*, is a reprint of his original 1965 recollections of the Gallipoli campaign including critical comment about how the campaign was subsequently remembered and criticised. At the time, these short recollections were not expected to sell, but subsequently became a classic, the simple and readable style appealing to a mass audience eager to learn more of the New Zealand experience of the Great War. The second book follows Malthus' tour of duty in France in 1916 – he was present during the devastating battles of the Somme, remembered as another muddy trenches stalemate and for the immense loss of life. The manuscript was only recently uncovered amongst his estate. Fortunately, the publisher has chosen to release both books together and with this new release, readers will see how well the two complement each other.

Both are earthy tales from a simple soldier's perspective and will have genuine appeal even now. The style is informal and narrative and is developed from diaries and letters home. The works capture the human side of what was advertised as a big adventure and what turned out to be a bloody slaughter. Both do not just concentrate on life and death at the front. Malthus takes us on a private adventure and we see the countryside, meet the people and enjoy the simple pleasures of life (few that there were) with him. In fact while *Anzac* focuses on the barren, forbidding landscape that was Gallipoli, *Armentières* devotes a third of the book to just getting there, rather than the cut and thrust of the war itself. There are also close stories of mateship – the central characters in both books remain the men in his squad, those that survived Turkey following him to France.

Malthus died in 1970, but his memories remain herewith, preserved in these two very readable books. Don't let the fact that they take a Kiwi viewpoint lead you to believe they are not relevant to an Australian audience. Without the references to New Zealand, the tale could just as easily be about an ordinary digger. Both add to our national understanding of the Australian and New Zealand experience of World War I and are recommended.

TED SERONG: The life of an Australian Counter-insurgency expert, by Anne Blair. Published by Oxford University Press, Melbourne. 248pp including maps, photographs, notes, index and bibliography.

Reviewed by Lieutenant Colonel Derek Roylance (Retired)



This latest offering in the Australian Army History Series has been long awaited by those who knew Brigadier Francis Philip (Ted) Serong who was, and is, regarded as one of the Australian Army's most original thinkers and who gained a world wide reputation as an expert in counter insurgency warfare.

During his service, and after he left the Australian Army, he became much more. He was an adviser to presidents and generals and was the last Australian to leave Saigon (now Ho Chi Minh City) when it fell in 1975, leaving by helicopters from the grounds of the US Embassy.

Born in Melbourne in the year of Anzac – 1915 – Serong received a staunch Catholic upbringing and education having gained a scholarship to St Kevin's college in East Melbourne.

In 1933 the headmaster of St Kevin's wrote a recommendation that Serong be accepted as a candidate for RMC Duntroon. He applied for entry at the age of 18 but was not accepted and no reasons were forthcoming.

He joined the CMF and after some months of study took the Service entrance examination and passed, entering RMC in third class.

He served in the New Guinea campaign from November 1942 onwards but it was after that ended in 1945 that he embarked on a path which lead him to fame as an anti-communist Cold War warrior.

In the first half of the 1950s the future direction of Army training was of concern to those in the wings of power. From 1952-54 Serong was in an informal group of officers – all lieutenant colonels – who were concerned that the tropical warfare skills learned in New Guinea were being lost.

In 1953 Serong was in the Directorate of Military Training and was responsible for Army schools. He was in a position to take action on his convictions. He put forward his plans for the revival of jungle warfare training. The plans were accepted by the Military Board and Serong was put in charge of the project.

So the JTC was re-opened in 1955 with Serong, promoted to Colonel – in command.

In 1957 Serong was sent to Burma to address senior officers attending a seminar in jungle warfare. This led to him being chosen over the representatives of governments with a long experience of counter-insurgency (Yugoslavia and Israel) as the Burma Army's favoured adviser to the Burmese Army.

He arrived in March 1960 and stayed for 27 months. In that time he became de facto commander of the Burmese counter insurgency operations.

Serong was a keen observer of the United States build up in South Vietnam and he observed in July 1961 that the weakness in the Americans undertaking any counter-insurgency operation was "that they lack knowledge of what is practical. They have resources, and they can make plans, but the plans are academic, and there isn't a man at their disposal, from the president down, who can tell them if their plans are workable."

It would appear that this observation led to Serong's appointment as adviser on counter-insurgency to General Harkings the Commander of the Military Assistance Command Vietnam (MACV)

In July 1962 Serong commanded the first contingent of the Australian Army Training Team Vietnam (AATTV) Australia's first military commitment to the Vietnam War.

Serong was to stay in Vietnam until the collapse in 1975.

He had resigned from the Army for his career path had taken him to a much broader canvas than was possible for a serving officer.

The path he chose was unique in Australian military history. For 14 years he participated both in the field and as a strategic planner in the longest overseas operation in the history of the United States and its allies.

He had been the CO of AATTV and a Special Adviser in Counter-insurgency to the

commander MACV. He was seconded to the Department of State as senior adviser to the South Vietnamese Police Field Force; he was a consultant to the Pentagon and the war policy planner of three American Presidents.

In the final weeks leading to the fall of Saigon he was the strategic planner to the South Vietnamese as the Army tore itself apart by political machinations at the top and by the North Vietnamese Army in the field.

As the enemy rolled southwards Serong devised a number of fall back lines to which the Southern army should consolidate and stand firm. All failed.

The last such line proposed by Serong hinged on the provincial town of Xuan Loc, to the north of Saigon and, incidentally quite close to the old Australian Task Force base at Nui Dat.

Blair writes: "At Xuan Loc, the 18th Division of the ARVN (Army of the Republic of Vietnam) in contrast to the performance of other units of the RVNF, held against massive assaults".

As an aside, this should be a matter of pride to former members of 1 ATF because it was this formation, 18 ARVN, that was trained by the Australians.

Inevitably, the defenders of Xuan Loc were overwhelmed, and Saigon fell soon afterwards.

Serong believed that his mission, in its various guises had succeeded because for the nearly one and a half decades he was engaged in that country gave time for the strengthening of the other new nations of south east Asia to deal with a rampant, successful communist government in their region.

On his return to Australia Serong spent his years writing, travelling both in Australia and worldwide. He was, as ever, controversial; he became associated with right wing organisations. However, his concerns were about the defence of Australia and the need for governments to provide sufficient funding for this to be carried out.

Ironically, within a month of his death, and following the Bali outrage, government is allocating more funds to defence.

Anne Blair's book is well written and well worth reading. It will be of particular interest to those who knew Serong and who served during the Vietnam period of our history.

