DEFENCE FORCE JOURNAL
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LEADERSHIP TRAINING

Dear Sir,

I wish LCDR Baker well in his attempt to develop a systems approach to leadership training (DFJ Sep/Oct 1982), although our inability to define leadership, as distinct from management, in precise functional terms is probably his greatest obstacle.

However, I wish to take exception to one important aspect of his article on which his attitudes towards leadership seem to be substantially based. Early in his article he declares:

'Rising generations of youth are the products of a permissive society which has provided them with few static values by which to judge normality from abnormality, or custom from taboo'.

Later he makes further reference to this trend in his predictions about the nature of the ship's company of the future.

The attitudes which prompt this observation are, I believe, fairly typical of the Australian Defence Force (ADF) and reflect a relationship with the civilian world which is quite counterproductive.

It is one thing to develop a sense of pride in one's own attitudes and values, and to jealously guard them, but it is quite another matter to reason that those who do not share them are unable to 'judge normality from abnormality, or custom from taboo'.

The ADF, quite rightly, considers that certain standards, not widely held in civilian life, are vital to a military organization, which by its very nature, will probably always be out of step with the society it serves.

However let us get this 'them and us' in perspective. 'They' employ 'us' to protect the things that 'they' consider important. Among other things, we are protecting the way of life that Australians have created for themselves.

If we in the ADF have to insist on a different set of standards for ourselves and those under our command, so be it. Let us not, however, become so arrogant as to assume that all those who favour other standards are lacking a set of 'static values'. There has never been such a thing as static values, except perhaps in those societies whose ideologies we condemn!

We are fortunate to live in a society in which certain fundamental freedoms are considered inviolable. The fact that some of us have chosen to exercise this freedom by joining an organization with different standards does not give us the right to judge those who have not.

J. R. Leonards
Flight Lieutenant, RAAF

AUTHOR'S REPLY

Dear Sir,

I was somewhat shocked to read FLTLT Leonard's reaction to my article. He has focused on only one myopic aspect, far removed from my general thesis and has used this to develop a criticism, based on a false assumption on his part.

The sentiments expressed in his letter would be supported by most intelligent Service officers. The 'them and us' syndrome could not have been further from my thinking when I wrote my article.

The various attitudes identified by me as worthy of naval officers in the execution of their duties were not meant to set such personnel above or aside from other Service employees or other professional groups in the civilian sector of the Department of Defence. It could well be that proper job analysis of the tasks performed by other professions would reveal similar attitudes to those I highlight for naval officers or a different set of values equally as important. Each occupational grouping must identify its own expectations in this regard.

May I therefore recommend a second and closer reading of my article by FLTLT Leonard. My aim was to propose a better strategy for leadership training in the navy, not to create division within CNS' workforce.

C. V. Baker
Lieutenant Commander RAN
The study of tactics represents an important, part of an officer's initial and subsequent training. However it seems to me that we rush into our study of tactics, examining specific problems, without understanding either what 'tactics' really means or what its 'study' should entail. We might draw an analogy with a bridge designer who is so engrossed in the practical problems of designing bridges that he works purely on the basis of empirical formulae without taking time to master the theory on which the formulae are based. Inevitably the bridges become stereotyped because progress requires a more fundamental understanding of the theoretical basis of design. In this article I wish to examine firstly the nature of tactical decision making and then, based on this analysis, the ways in which tactics may be studied.

As definitions so often lead to debates on semantic issues, rather than to an analysis of the concepts involved, no definition will be presented here. It will be assumed merely that tactics involves procedures and decisions on the battlefield.

When we look at the performance of a unit or formation in action we may assess it from various aspects. First of all there is the skill and determination of the individual soldier. This is not tactics but derives from individual training and man management, as well, perhaps, as inherent characteristics.

Secondly, there is the skill and determination of the commander. There are a number of skills which a commander desirably should have, including leadership and organizational ability, but the one with which we are concerned here is his ability to make tactical decisions. Thirdly, there is the efficiency of the formation in carrying out its battle procedures. A commander's tactical skill and the effectiveness of his command are obviously closely related. An otherwise sound tactical plan which is too complex for the abilities of the staff and units tasked with executing it is a poor plan. On the other hand a formation at peak effectiveness may be destroyed because of unsound tactical decisions by its commander. Tactics here will be treated as consisting of two aspects: decisions and procedures.

**TYPES OF TACTICAL DECISIONS**

It may be useful to look at the types of decisions which may be made. There are clearly different classes of decisions, not distinguished by the level at which they are taken but by the nature of the decision itself. If we consider an advancing force which makes contact with the enemy, whether the force be a division or a section patrol, a major decision, usually requiring the exercise of judgement, is whether or not to attack. Having made the decision to attack the commander has to decide how to attack. This 'how' consists of a group of decisions. For example the direction of attack (like the decision to attack) will be a matter of judgement — in this case based upon an eye for ground and an ability to assess the enemy's weaknesses — whereas the frontage of the attack will often be merely a matter of calculation. The fire plan too will depend to a large extent on calculations using data which can be readily learnt, however if we determine that the available fire support is inadequate for the
number of targets then judgement must be applied in determining priorities. An initial division of tactical decisions would therefore be into those which require knowledge and skills which can be readily mastered (and readily assessed) and those which require the development of judgement, a much less straightforward process.

STANDARD OPERATING PROCEDURES AND DOCTRINE

Standard tactical procedures, whether part of Standing Operating Procedures (SOP), or just accepted teaching, are tactical steps which have been proven over a period of time and which reduce the number of decisions which a commander has to make. As each decision is an opportunity to make a mistake the replacement of choice by a proven and sound measure obviously has some advantages. Certain procedures, particularly those related to security on the move and when stationary are very old indeed. The historian of the British campaign in North America wrote in 1757 of an overnight halt: ‘We posted a proper number of sentinels, who were relieved every hour: their orders were to challenge everybody, and oblige them to give a counter-sign.” Such procedures undoubtedly go back to ancient times. Even here it should be noted that junior commanders are usually given some latitude in deciding whether sentries will mount singly or in pairs, and for one hour or two, depending on the enemy situation and the condition of the troops. Thus even SOP do not always save the commander from making decisions, in many cases they only remind him of decisions which have to be taken. In this respect the Australian Army is remarkably free of the dictates of rigid doctrine, particularly when compared with Eastern Bloc armies. For example we do not lay down the size of security force which a battalion must deploy in defence. This absence of doctrine can be confusing for foreign officers. I was once asked whether Australian doctrine laid down that the forward battalions or the depth battalion was responsible for stopping penetration in a brigade. My reply that the forward battalions would if they could and that if they could not then it was clearly up to the depth battalion (or reserve — to the questioner they were synonymous), amazed the other officer who felt that it should be laid down in ‘doctrine’.

The lack of prescriptive doctrine does not mean that there is no standard system of tactics used by all Australian officers. That there is a pattern can be seen when one looks at the way non-British armies, in particular, solve tactical problems. In the attack, the Indonesians, who closely follow US doctrine, teach that attacks are always made ‘two up’. In the case of a brigade attack there will be two battalions leading, with the reserve battalion following the battalion which has been nominated as executing the main attack. The main attack is always on the enemy’s weakest flank and this flank is also given almost all the support. The battalions will be expected to teach a depth of ten or more kilometres. If we examine a typical Australian plan for a brigade attack we would find that it consisted of a series of phased battalion attacks over comparatively short distances. This is not a new phenomena: it was the same type of attack which was used by Australian brigades at El Alamein. In case we should feel that this is invariably the better solution it should be remembered that on a number of occasions it led to disaster when phases consisting of a single battalion assault into an extensive position left the assaulting battalion isolated on its objective (as for example when, during the Battle of El Alamein, the entire 2/28th Battalion was captured on Ruin Ridge on 27 July 42). Except at the lower levels, where formations and tactics are explicitly laid down in pamphlets, doctrine tends to consist of an oral tradition at Staff College and other Army schools. As it is only an oral tradition it allows for a more flexible approach to tactics than if it were prescribed in writing. The effects of an inflexible approach to tactics will be discussed later.

IMPERFECT KNOWLEDGE

There are two aspects of tactical decision making which must be appreciated, particularly from the point of view of teaching tactics. The first is that tactical decisions are made in conditions of imperfect knowledge. In chess all the pieces may be seen by each player but in war one never has perfect information on the enemy ‘pieces’ and rarely, except in a static situation, full information on one’s own ‘pieces’. A classic case of this uncertainty was McClelland’s hesitancy in advancing on Richmond with greatly superior forces during the
Civil War because he believed that the Confederate army was bigger than his. To compound his own uncertainty he did not know the strength of his own army! That imperfect knowledge can also have a major influence on bolder commanders than McClelland is shown when we look at Rommel's drive on Tobruk. This drive was stopped by two Australian battalions spread over the entire perimeter with a handful of captured howitzers operated by infantrymen. Undoubtedly Rommel would have pushed his initial contact harder had he known the true strength of the opposition. The effect of imperfect knowledge can be seen in training when we compare a Tactical Exercise without Troops (TEWT) with a field exercise, even a one-sided exercise. In a TEWT the student is handed the narrative and trace which contains sufficient information to ensure that, provided he knows the enemy order of battle, he can calculate the size of force he is up against, and where the major elements are. One of the major benefits of field exercises for those taking part at the command level is that they demonstrate the effect of imperfect knowledge. Not only must the commander and his staff plan the collection of information but the commander must decide at what stage he has sufficient information on which to act. As information is never complete there is a natural tendency to keep postponing action while continuing to gather information.

**THE EFFECT OF A REAL OPPONENT**

A second aspect of tactical decisions is that they are often made in a situation of 'conflict'. As this term is used in Operations Research (OR) it means that two sides are making decisions, the results of which will depend upon the decision made by the other side. An example of this might be an advance where the advancing commander considers the use of air-borne troops to secure critical points in the rear of the enemy (Course A) as an alternative to concentrating all his effort on a ground advance (Course B). The withdrawing commander must also decide whether to place significant security forces in his rear (Course C) or to use them all on his front (Course D). If we use an arbitrary scale to reflect the benefit to the advancing commander of each combination of decisions we can produce a table (Fig. 1). (The scale might reflect such elements as time taken and relative casualties). It will be assumed for simplicity that the advantages and disadvantages as seen by the enemy commander are identical in size to, although the reverse of, those seen by the friendly commander.

<table>
<thead>
<tr>
<th>Advancing Commander</th>
<th>Withdrawing Commander</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>C</td>
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<tr>
<td></td>
<td>-50</td>
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<td>50</td>
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<td>B</td>
<td>D</td>
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<tr>
<td></td>
<td>25</td>
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<td></td>
<td>-20</td>
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</tbody>
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![Fig 1]

It can be seen that there is no clear cut solution in this case; Course A gives the possibility of greatest benefit ('pay-off' in OR terminology), but also the possibility of greatest losses. Course B, on the other hand, gives a lesser level of success but also limits the possible loss to a lower level than Course A. It is clear that there is no single 'best' or 'sound' solution. These alternatives are the 'courses open to me' and 'courses open to the enemy' of a military appreciation.

There will be of course be times when one course gives the best results regardless of the enemy's decisions; there will be other times when we do not need to make our decision until we know what decision the enemy commander has taken. (The example used above assumes that the advancing commander is not able to accurately determine the enemy dispositions before determining his own plans. Although the two decisions may not have been made simultaneously, imperfect knowledge and the lead time needed to implement the decisions may produce the same effect.)

If, after eliminating as many courses as possible, we are left with at least two possible courses for each of the commanders, then we have what is known in Operations Research terminology as a 'conflict' situation. The theoretical approach to such a problem if numerical values can be assigned to the possible outcomes, is to throw a weighted dice in order to maximize the average results over a number of decisions. While such a technique may be acceptable to businessmen taking commercial decisions it is certainly not the way decisions are taken in the field. We should therefore
look more closely at the way commanders tackle the problem.

For the advancing commander, Course B would appear to be a safe or 'conservative' solution: it gives a smaller degree of success if it succeeds but the smallest loss if it fails. The problem is that if a commander can be typed as a commander who always chooses a conservative solution his opponent can choose a course of action to maximize his own success — in this case Course D. (It should be borne in mind that a comparatively poor result, in this case indicated by —20 need not necessarily represent a defeat, the advance may in fact continue although at a slower rate and with more casualities than would have occurred had an alternative combination of decisions been taken).

This simple analytical treatment illustrates what we know intuitively: that a commander can take advantage of a stereotyped opponent. It is interesting however to examine the different situations of a stereotyped 'bold' commander and a stereotyped 'conservative' commander. Theoretically it would appear that it should be possible to take advantage of the bold commander and achieve results overall which are even better than those achieved against a conservative commander — after all the whole aim of a conservative commander is to minimize his possible losses. In practice this rarely happens and the reason is probably as follows. A conservative commander can suffer a series of defeats or victories with less than optimum results, and continue to make 'conservative' decisions. In fact his tendency is possibly reinforced. The enemy commander has only suffered to a limited extent and remains capable of taking advantage of the stereotyped tactics. In the case of the commander with a tendency to bold action there are two possibilities. Firstly his initial actions may fail, in which case he is likely to adopt at least temporarily a conservative approach. (Even if he does not, the likelihood will cast doubt in the enemy commander's mind). Alternatively his initial actions may succeed in which case his tendency to adopt bold courses will be reinforced. The problem for the enemy is that whilst the pattern of tactics of the friendly commander may be absolutely clear, each bold success will wrest the initiative more and more firmly into the hands of the bold commander leaving the enemy less and less capable of exploiting this 'rigidity'. Outstanding cases of this were the German advances in Western Europe, Russia and North Africa, and the Japanese advances in Malaya and Burma. It may even be the case as with McClelland, that a commander does not appreciate that he is being defeated by bold action, convincing himself that his defeats are due to the physical or material superiority of the enemy.

THE MILITARY APPRECIATION

The discussion so far may have appeared to ignore the 'appreciation of the situation' process which is taught as the keystone to tactical problem solving. In fact it has only jumped in at the 'courses open' stage and illuminated the problem of selecting the final course of action. But what then about the other elements of the appreciation?

THE AIM

It is not proposed to discuss the 'Aim' at length although the British system of adopting a single aim differs from that of certain other armies. From personal experience of the confusion caused by multiple aims I am convinced that the use of a single aim is merely the common-sense practice of solving one problem at a time.

FACTORS AND THEIR MANIPULATION

The basis of the appreciation process is the identification of factors which affect the aim, the drawing of deductions from those factors and the combining of those deductions into a series of alternative courses of action. This is not the simple logical process it is often made out to be. The fact that the complications are ignored — or even denied — may explain the confusion and frustration which many officers suffer when faced with the task of preparing an appreciation.

The first problem is that of identifying relevant factors from among the innumerable possible factors. If we consider an area of ground, there will be an enormous number of items of information which could be obtained from it. Some items would be of interest to an

* The elements are: Aim, Factors, Courses Open (To me/to the enemy) and Plan.
agricultural scientist, some to an engineer and some to a military commander. Those which are of military interest in some circumstances will not be in others. It is of only slight assistance to state that the factors which are relevant are those which lead to useful deductions, as this is a test which can only be applied to a limited number of items of information. As a test it is also of no use in determining whether the factors in an appreciation are the only relevant factors. If the number of possible factors preclude them all being considered in a limited time, how does an officer select those factors which are, or are likely to be, relevant? Aide-memoirs provide some general guidance but are a two-edged weapon as they cannot cover all possible situations. An officer will be guided to some extent by the type of plan he intends to produce. While this may be called 'situating the appreciation' — allowing preconceived ideas to affect the appreciation process — it is to some extent inevitable. The types of tactical plans which we are accustomed to seeing and using will affect those factors we see as relevant. This is why officers from different armies can arrive at radically different solutions to the same problem. The process described is not the same as deciding on a fixed plan after a quick glance at the problem and then writing the appreciation around that plan. In both theory and practice the difference here may only be one of degree. In practice anyone experienced at tactics can hardly fail to see a number of possible courses of action from a quick glance at a situation map. However, he should not decide on a final course of action until he has considered all factors which appear relevant in some detail. As a result of his consideration of these factors he should still be prepared to admit courses of action not seen at first glance. The more open one's mind, the more likelihood there is that a fresh, non-standard solution to the problem may be discovered, but at the same time the number of items of information which have to be sifted will increase in proportion to the 'openness' of the approach. It should be clear that the idea that one's mind should remain a complete blank while considering factors is not only humanly impossible but would result in the appreciation taking an almost infinite length of time.

Another problem is that the student is advised to consider each factor only in relation to the aim, drawing as many deductions from it as possible before moving on to the next factor. This is in fact a misunderstanding of the logical process.

A deduction is a conclusion which forms part of a syllogism or argument. To arrive at a conclusion one must have two prior statements. The statement 'Terrain off roads is unsuitable for tanks' does not lead to the deduction 'I can only use my tanks on the roads' unless I also have as a factor under 'Friendly Forces' 'I have X tanks'. The human brain is quite capable of making these connections — usually quite unconsciously — but the tactics student faced with committing the process to paper often suffers mental anguish in trying to reproduce the flexible mental processes on paper, particularly if he is trying to disguise the syllogistic nature of the process. It should always be made clear to students that the written appreciation is only a poor reflection of the mental appreciation which it summarizes.

A method of avoiding the problem of showing the complex inter-relationship of all the factors and the deductions is to describe all the factors first, and list all the deductions afterwards — or even incorporate the deductions directly into the description of alternative courses. This is the US system, but it has an inherent danger: it becomes very difficult to apply the test of relevancy to the factors described. As a result the appreciation can degenerate into pages of descriptive verbiage which bears little relationship with the plan which appears at the end.

The fact that it is difficult to reproduce the mental appreciation process on paper does not mean that it should not be attempted. The process of committing one's thoughts to paper is an excellent way to clarify and develop them. **ALTERNATIVE PLANS**

Having arrived at a series of deductions it is still necessary to combine them into a plan, or a number of alternative plans, to consider possible enemy courses of action and to 'think through' the possible consequences of the plans. All these steps may in theory, be done by deduction, but in practice they are more likely to be achieved by induction. For example, when considering the alternative of advancing on one axis or two we might say of the two-axis solution, 'my force on Route A will
be $X'$, 'the total enemy force is greater than $X'$ and therefore, by a series of deductive steps, state 'the enemy can concentrate a superior force on Route A'. The inductive process would be as follows: we know that in cases where forces have been split the enemy has sometimes concentrated superior forces against one element; this is a particular instance of that general case; therefore the enemy may in this case gain superiority of force.

A general weakness of appreciations in my experience is that they do not carry through the examination of possible courses of action. Although 'friendly courses' may be weighed against 'enemy courses' this is not extended to examining all significant possible outcomes. Whether this is due to the optimism engendered by theoretical exercises — which leads to the assumption that the best plan will inevitably succeed — or a reluctance to cast doubt on preferred plans, it is a serious fault. If carefully planned attacks always succeeded and withdrawals always occurred to plan, then war would be a much more predictable activity. But of course it is not.

A bogged tank, an undetected machine-gun, a chance shell landing among a command group are part and parcel of any real-life operation. Alternative courses should therefore not only be compared to determine which is more likely to succeed but the results of failure or only partial success should also be compared. For example, if one alternative involves the passage of an obstacle, what happens to the force if none or only portion of the objective is secured within the laid down timings? Carrying out this analysis is dependent upon the ability to foresee possible outcomes and the penalties involved. Once again these might be deduced logically but it is more likely that the commander will depend upon knowledge of previous cases to draw analogies.

THE IMPORTANCE OF 'EXPERIENCE'

It is clear therefore that in the various steps of an appreciation: recognizing relevant factors, drawing deductions, combining deductions to produce alternative courses of action and weighing one course against another, the commander must draw on some fount of prior experience. If we assume that the appreciation format can be readily learnt; that an officer has a certain natural ability in the area of logical thought which may be improved only slightly with practice; then it is apparent that the greatest improvement in tactical ability will be produced by developing this fount of experience. The emphasis in developing tactical ability must therefore be on developing this experience. The discussion which follows will consider three methods of providing a form of experience: actual experience of warfare, tactical training and military history.

BATTLE EXPERIENCE

Actual participation in battle is obviously an extremely valuable experience for an officer. Perhaps the most important benefit is that it makes an officer aware of the atmosphere in which decisions are taken. A decision in action has more serious consequences than praise or criticism by a member of the directing staff or one's fellow students. The participant also experiences the problem of making decision with imperfect knowledge, and the procrastinating effect which this can have as the commander tries to make his intelligence picture just that much more complete. He will also develop a realistic appreciation of the difficulties involved in moving numbers of men, vehicles and equipment over the battle ground when working through several layers of command with communications which may be tenuous, or even require personal contact, and when the men, vehicles etc require to be fed, rested, refuelled and resupplied. This experience will provide a valuable counter to the panache with which symbols may be moved around a map on a theoretical exercise.

There are certain difficulties with the experience gained from actual combat which are also common to military history and will be discussed under that heading. However one major limitation with combat experience is that it is limited. No matter how wide his experience an officer cannot experience all phases of war in all terrain against all types of enemy and with all types of forces. Even a hardened veteran like Sir William Slim who managed to maintain his command in Burma from the time of his appointment until the end of World War II and had also had experience in the first World War, as well as between the wars in India, did not have an opportunity to experience large scale mechanized warfare in the conditions of Europe.
TACTICAL TRAINING

The most common method of tactical training in Australia is the tactical exercise without troops (TEWT) which is conducted largely in the field. Map exercises, conducted indoors, are used much more rarely. While the conduct of exercises ‘on the ground’ helps to develop an eye for ground, we need to treat carefully the exhortation to TEWT writers to only introduce problems which require the students actual presence on the ground for their solution. It follows that if most training is in the form of TEWTs, and those TEWTs concentrate on one type of problem, then there are other types of problems which are being ignored. At the higher levels of command commanders and their staffs must make most of their plans entirely from the map and from second-hand intelligence information of the terrain. Most officers can visualize quite well a piece of terrain from a study of a map provided the terrain is of a familiar type. (This is one reason why as many officers as possible should be given a chance to exercise in those parts of Australia with which the average Australian is not familiar). Anyone preparing a TEWT must therefore be careful that undue emphasis is not placed on low level tactical considerations merely because he wants to get the students outdoors and spend the majority of the time allocated for the exercise in the open air.

The success of a TEWT in developing the students abilities depends upon a number of factors. The most obvious is perhaps the ‘pink’ or Directing Staff (DS) notes. The limitations of these must be recognized. They will usually consist of an appreciation, a suggested solution and amplying comments. Their value to the staff member running a syndicate is that they will have been prepared by a person or a team who have presumably had more time to consider the problem than he himself has. The weakness of the pink is that it will undoubtedly suffer from sins of omission and cannot provide comment on all possible plans and variants of plans. It is inevitable that when fresh minds look at a problem they will see additional factors, deductions, courses of action and plans. The DS must accept or reject these on the basis of his own knowledge and common sense. The author of the pink can assist by stating whether any possible plans are actually unsound but a great deal obviously depends on the ability of the syndicate DS. A DS with a broad background of knowledge is able to accept ideas from the students, judging for himself whether or not they are sound. A DS who is unsure of himself will need to stick closely to his notes, tending to reject anything which is not contained in them. A second important factor is therefore the quality of syndicate DS. The natural respect in which DS are (normally) held enables them to slight non-DS solutions, leaving the students with an erroneous idea of what is or is not sound. A third important element is the composition of the syndicate. A good syndicate with students of wide background knowledge will assist the development of each of its members provided that contributions are handled sympathetically by the DS.

A fourth important element is the setting. If TEWTs and other exercises contribute a significant part of an officer’s tactical know­ledge, then it is important that a variety of settings are used so that officers have a broad background on which to draw. Unfortunately it is not always obvious that settings lack variety. I noted in Indonesia that an exercise involving a battalion attack always had the battalion as part of a brigade attack. An exercise at brigade level always had the brigade as part of a divisional attack. In all cases boundaries and timings were determined in the narrative. In Australia by contrast a battalion level problem will usually involve the battalion operating with a fair degree of freedom against an isolated company. A similar situation applies when exercises are set at higher levels. Neither of these types of settings can be said to be wrong: both will occur in war — although it may be said that the scenario which allows the student commander the most latitude is the most valuable for training purposes. Nevertheless it does illustrate one type of stereotype. A stereotyped pattern of scenarios, particularly ones which omit likely enemy tactics, will not only give officers a limited tactical background but can lead to a blindness towards shortcomings in procedures, organizations and equipment. If we ask the question ‘Why was the French Army’s organization, procedures and communications (as well as method of thinking) such that it was incapable of resisting the German offensive in 1940?’ the question can undoubtedly be approached at different levels, but it is obvious that between the wars the
scenarios of all exercises must have been unrealistic in terms of the war which actually eventuated. We can see a similar example in Australia. If we look at the large areas for deployment and manoeuvre, and the size of forces which we might deploy, it would appear that the number of exercises involving the attack and defence of bumps in the ground should be reduced to allow for the introduction of exercises involving battalions operating on a frontage of 20-50 miles. An interesting example of a distorted scenario occurred some years ago at the Australian Staff College when an exercise involved a withdrawal in the face of an Asian force. Although the terrain was flat the enemy controls were not allowed to move the enemy off the main road any faster than they could construct new roads. Any study of campaigns in SE Asia would show that this is not a limitation which Asian armies have ever imposed upon themselves. In effect the enemy was being made to conform to the tactics and groupings which we wanted to adopt rather than vice versa. The lessons learnt by the participants were therefore completely false.

A step further up the scale of realism is the tactical exercise with troops. The benefit to be derived from these will be proportional to the realism achieved. This will depend to a considerable extent on the quality of the umpiring. Attempts have been made to improve realism, for example the Simfire tank gun simulator actually causes a tank which is 'hit' to stop. Some US exercises have employed an umpire control centre with a data bank. Field umpires radio in information on incidents which are happening and the control centre determines the number of casualties to be awarded based on historical data or operations research. Without strong umpiring it is easy for participants to underestimate casualties. There is always a strong tendency to overestimate the effects of our own artillery and underestimate that of the enemy. Assaulting troops like to feel that they can march through the objective, forgetting that from the time supporting fire lifts off the enemy's forward positions it is necessary to use fire and movement to actually reach, let alone fight through, the objective. Although officers often take umbrage at the number of casualties awarded against them, it is encouraging the way that soldiers throw themselves into the battle once it is made clear that they must use the fieldcraft and minor tactics which they have been taught. This point has been laboured because exercises which are unrealistic will teach unsound tactics. During my final year at RMC — after numerous field exercises — a member of staff asked what action a platoon commander should take if he begins to suffer heavy casualties during the final stages of an attack from a machine gun to the flank. The invariable response of the class was either to continue at the standard two minutes per hundred yards or to break into a run. The idea that troops might have to use fire and movement was unknown. Unfortunately the number of exercises an officer can attend in his career are necessarily limited and the scope is further restricted by the terrain and size of the available training areas. The comments made on scenarios in relation to TEWTs obviously also apply to exercises with troops.

Experience can also be gained through war games. These pit an officer against a live opponent and not against an inanimate 'pink'. Because of this they produce a more realistic atmosphere. A problem with war gaming is that they depend upon either good umpiring or an extensive book of rules. They may be played out in great detail, as with research and development games, in which case the playing time is too long for training purposes, or they may be simplified for playability. For example in a battalion level game it is not feasible to examine the results every time a weapon is fired but sections or platoons may be given a strength based on an analysis of the weapons organic to them. That war games can be made playable is shown by the success of commercial companies which have begun producing them in the last decade. As many of these games can accurately simulate the results of historical battles it might be presumed that they can also simulate with reasonable accuracy the likely outcome of hypothetical contemporary battles. A contributing factor to the realism of war games is that they introduce the element of chance. Plans have to be made in the knowledge that there is no guarantee that the plan which appears best will actually guarantee complete success. The importance of this consideration was discussed above. In addition war games can be more satisfying because they are more objective than TEWTs. A student may find it difficult to accept an assertion by the DS that his company would be wiped out.
before it reached its objective, but if a company advancing in a war game takes casualties at the rate laid down in the rules the student can either accept the result or analyse the rules to attempt to find some flaw in them. In other words, the war game, if based on rules, feels less subjective and encourages the student to use an analytical approach.

MILITARY HISTORY

All the above methods of studying tactics, with the exception of commercial war games, are formal methods which officers can only experience intermittently whilst on courses or during limited periods of their regimental postings. Such experience cannot hope to be comprehensive. The officer who only knows what he has been taught or experienced personally will therefore have a limited tactical background. This means he must extend his knowledge by wide reading of military history. The term wide applies in a number of senses. He must not only study many campaigns conducted under different conditions but he must also study them at different levels. It is understandable if junior officers see little practical benefit in studying the North West Europe, or any other, campaign, if the study concentrates on the movement of formations. A platoon commander would learn more from a study of unit histories or personal accounts of soldiers and junior officers. In fact the two types of history are complementary. The broader study puts the elements of the campaign into perspective, as well as examining the problems faced by the senior commanders, while the lower level account enables the reader to see what it was like for the soldiers and junior officers who had to carry out the commander's plan. The reader may try this for himself by reading Slim's Defeat into Victory together with The Little Men by K. W. Cooper, a platoon commander in Burma. It is possible to combine the two types of narrative into one and this has been done admirably in the Army series of Australia in the War of 1939-1945. It is difficult not to feel after reading, for example, Barton Maugham's Tobruk and El Alamein that the time spent has contributed more to one's understanding of war than a month's formal study at a staff college. It is not surprising that so many outstanding generals have been so widely read and in many cases have turned historian themselves in later recounting the events in which they took part.

In recognizing the importance of military history in an officer's education it must be remembered that the apparent lessons of military history, like personal experience of combat, must be treated carefully. The correct lessons may not be obvious. A tactic which worked in one situation may not work in another situation which appears quite similar. The classic example of false deductions being drawn from a successful action was the support which the charge of the Light Horse at Beersheba in World War I provided for those who maintained that cavalry could still be used for shock action. But just as no one would argue that we should forget what we learned from our own experience, it would be nonsense to suggest that we should ignore the experiences of others.

A very useful technique for anyone interested in some particular aspect of tactics — and this should apply particularly to those responsible for formulating or teaching doctrine, is to use a combination of approaches to examine the problem. One's attention may be drawn to a particular aspect of current doctrine, either oral or written, as reflected for example in the recommended solution to a TEWT. This might be a reluctance to use cut-off forces, or conversely too much might have been expected of them. The argument against their use may be based on the difficulties of control and weakening of the main attack. It is therefore necessary firstly to determine just how real these disadvantages are and secondly to what extent they are offset by the effect they have on the enemy. Unfortunately this second question is often forgotten. It is interesting that the allied and German commanders experienced considerable success in the final battles of World War I when major offensives coincided with fogs. Instead of attributing their successes to the effects of the fog on the enemy they believed that their advances would have succeeded even more if it had not been for the fog and its effect on their own command and control. Having determined the questions to be answered we should look for historical precedents. If we were interested in cut-off forces then the Japanese tactics in World War II, would come readily to mind; other examples could be found through research. Some officers are in the fortunate position of being able to
carry out actual exercises to determine whether the difficulties are real or imagined. The author has used historical analysis together with field trials to examine doctrine on the crossing of minefields and assault river crossings, whilst historical analysis (necessarily without field trials) threw interesting light on the Indonesian doctrine for the defence of their archipelago. In all cases the approach produced insights of which the author was not previously aware.

MATHEMATICAL ANALYSIS

An additional tool, particularly applicable to weapons related problems is mathematical analysis and model building. Historical research may be used to check the reality of the model, or mathematics used to extend past experience with inferior weapons into the present. A major advantage of the Shrivenham year of the British Army Staff Course is that it encourages officers to look at problems analytically. Basic training of officers in the field of weapon characteristics is little different from that of recruits. Statements such as 'Antitank weapon A will penetrate the front and sides of the heaviest known tank at a range of X' may be good for morale but are not likely to encourage an analytical approach to antitank tactics. At the very least officers should be thinking in terms of hit probability and the type of 'kill' which might be inflicted on a tank which is hit.

SOME PERSONAL REMARKS IN CONCLUSION

In my own case, while my basic tactical training was provided in the normal progression at RMC, Australian Staff College and various corps and tactics courses, I found my insights into the tactical process were broadened by my attendance at RMCS and an overseas staff college. In the case of RMCS the benefit came from the decision-making theory element of the course, and from the emphasis on an analytical approach to the effects of weapons, vehicles and other equipment on the conduct of the battle. Attendance at an overseas (non-British) staff college enabled me to see our system of tactics in perspective; it also gave me the opportunity to read more widely in military history.

The reader may draw his own conclusion from the discussion in this article: I hope one is that all officers should feel an obligation to include military histories among their general reading material. In particular however, I would urge that officers selected for directing staff positions at the Australian Staff College and the Land Warfare Centre, at least, be required to gain an appreciation of decision theory and to study a significant amount of military history. As a very minimum anyone involved in teaching tactics should have completed reading the Army Series of *Australia in the War of 1939-1945*. This might be achieved by the issue of study guide with the posting order, by the provision of three months study leave, or by adjusting work loads during the first months after assumption of duty. Such preparation will ensure that exercises are realistic and discussion is sound. It will also enable DS to answer the problem which perennially puzzles students during the counter-attack part of any problem: ‘What use is a counter-attack force of a company in a task force if a task force will only be attacked by a division?’ Which is, perhaps, a suitable conundrum on which to conclude.

NOTES

1. In particular a great deal of time seems to be wasted in attempts to differentiate between ‘tactics’ and ‘strategy’. The discussion here should in fact apply to both tactics and strategy whether on the land, at sea or in the air.
2. But not always — the decision to attack on a narrow or a wide front may be an important decision requiring sound judgement.
4. JSP(AS) 102 Chapter 16.

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FALKLANDS AND THE INVINCIBLE IN 1914

By Robert Kendall Piper, Dept of Defence

HISTORY has a habit of repeating itself and so it was in December 1914 that another British Invincible was involved in a mighty sea battle against the Germans off the Falkland Islands. In those days she was a dreadnought battle cruiser boasting eight giant twelve inch guns instead of Harrier aircraft and missiles though with a displacement and speed comparable to the present British carrier of the same name.

An English naval squadron only a month earlier had suffered a crushing defeat by the enemy and Vice Admiral von Spee. Two British cruisers were lost with all hands off the coast of Chile in what was later named the Battle of Coronel.

HMS Invincible as flagship, with Admiral Sturdee, as well as its sister ship Inflexible were immediately and secretly despatched to the South Atlantic to combat the threat of the enemy ships. Arriving at the Falklands on 7 December 1914 they rendezvoused with five other cruisers as well as the slow old battleship Canopus and armed merchant cruiser Macedonia. Sturdee had not intended to depart until the following evening and planned to spend the intervening time re-coaling his ships.

Admiral von Spee approached Port Stanley cautiously on the morning of December 8. His light cruisers Gneisenau and Nurnberg reconnoitred ahead in what was planned as a swift action to destroy the wireless station, coal bunkers and any itinerant shipping found straggling close by.

His approach however had been detected by a shore-based observation group at 7.50 a.m. and word was quickly relayed to Sturdee and his vessels below.

Canopus fired first shots towards the Gneisenau at a distance of some eleven kilometres; her shells being directed by a gunnery officer ashore in an observation hut. Splashes were seen to rise only a hundred metres short before the intruder and her friends retreated rapidly back out to sea.

Within two hours all the British squadron had raised steam on their coal-fed boilers, weighed anchor and proceeded through the harbour entrance minefield. The chase began.

By 11 a.m. the Invincible and other English warships were in hot pursuit and could see that they were gaining ground as black smoke poured from their funnels and speeds worked up to 25 knots. Quarry and the hunters were now only nineteen kilometres apart.

Foul weather had been replaced by a calm sea and clear sky with maximum visibility. There was no rain, mist or storm in which the Germans might seek shelter and escape.

Inflexible with her twelve inch guns fired the first closing shots at 1 p.m. with the Invincible adding her own firepower a few minutes later. Range had narrowed to sixteen kilometres. Leipzig was now the rearmost and slowest ship. She could not stand the increasing pace and was falling astern of the fleeing German squadron. No hits were obtained by the two dreadnought pursuers though the Leipzig was lost to view as the giant shells shot up huge geysers of water about her.
Spee signalled for his three light cruisers to scatter and make for the South American coast while he, with the two armoured cruisers Scharnhorst and Gneisenau, stayed and fought a rearguard action.

The battle now began in earnest with Invincible ranging on Gneisenau and Inflexible on Scharnhorst.

Sturdee, taking no chances, kept his dreadnoughts out of range of the enemy’s smaller eight-inch guns while he pounded away with his own twelve-inch guns. Each time the German ships tried to narrow the gap he wisely edged away. With his superior speed and weapons, providing the weather remained clear, he knew it was only a matter of time before success was in his grasp.

Shortly after three in the afternoon the pursuers noticed that the Gneisenau had taken a list and the Scharnhorst was burning at several points. The latter was first to go and turned over on her side at 4.17 before sliding below the waves. Von Spee went down with his ship; there were no survivors.

Meanwhile the Gneisenau refused to surrender and fought on gamely into the twilight. Finally she too heeled over on her beam ends. Remnants of the crew could be seen walking on the cruiser’s side. Then suddenly the warship plunged below the waters of the South Atlantic.
to join her sister. Some two hundred of her complement of 850 were picked up though many of these were later to die as a result of wounds and prolonged immersion in the icy sea.

Leipzig and Nurnberg, the light cruisers, were also to be caught and sunk. So ended a series of chases and actions which then came to be known as The Battle of the Falklands. Of the five German cruisers and three colliers only the Dresden and one tender escaped. A handful of casualties were suffered by the British but the German Navy lost some two thousand men. These included von Spee's two sons, Heinrich who served on the Gneisenau and Otto with the Nurnberg. A special German medallion was struck depicting the three and commemorating their gallantry.

Dresden was eventually caught in March 1915 and scuttled by her crew at the Chilean Islands of Juan Fernandez.

HMS Invincible was lost in the Battle of Jutland (off Denmark) on 31 May 1916. This time she was under the command of Admiral Hood with Captain A. L. Clay at flag captain. In a running fight with Derflinger and Konig the dreadnought managed to inflict some damage on the opposition before succumbing. Rent in two after an internal explosion her stem and stern rose apart high out of the water before she settled.

There were only six survivors who clung to a liferaft. Commander H. E. Dannreuther, Lieut. C. S. Sandford, Chief Petty Officer Thompson and three other ratings; most of whom had been in the control top.

In the first list of official battle honours, promulgated by the Admiralty in 1954, the seven Royal Navy ships involved in the action...
forty years earlier were finally awarded the battle honour FALKLAND ISLANDS 1914. John Davis, an English navigator, in his ship Desire is thought to be the first to sight the now controversial Falkland Islands in 1592. Captain John Armstrong, also an Englishman, made the first recorded landing in 1690. He named the sound between the two main islands after Viscount Falkland, the British Navy’s then treasurer. The name later came to refer to the whole group though the term Las Malvinas is in general use in South America.

However, the honour of the first settlement goes to the French and their famous navigator Louis Antoine de Bougainville. This was on East Falkland in 1764.

A year later the British, not to be undone, moved on to West Falkland. Spain in turn brought out the French and drove off the English in 1770. War seemed inevitable between the two but at the last moment Spain agreed to return Fort Egmont and its port. Only four years later the English withdrew their naval garrison as an “economy” measure. Before
departing a plaque was erected claiming sovereignty over all the Falklands for their country.

Things were to remain quiet for over three decades until neighbouring Argentina rose up successfully against Spanish control. By 1916 they claimed to succeed Spain in Falklands ownership and moved in four years later; installing their own Governor at Soledad in 1828.

Five years later (things moved slowly in those days) a British force peacefully sent the Argentine soldiers back home. In 1834 the then British prime minister was to state that they were not prepared for "any other state to exercise a right as derived from Spain, which Britain had denied to Spain herself".

The present Invincible is the seventh British ship to bear the famous name. First was a captured French vessel in 1747. Two others also of wood and driven by sail were launched in 1765 and 1808. These were followed by an armoured frigate and iron steam ship in 1861 and 1869 respectively. Sixth was the World War One Invincible which was launched in April 1907, costing the British taxpayer £1,752,000.

Nothing is new under the sun they say and indeed so it seems. The South Atlantic islands once again in dispute in 1982 and two proud nations’ honour at stake. Economics dictate the extent of their actions and a British warship named Invincible a major participant. One can only reflect on the Falklands turbulent past and guess as to its future; at the same time wondering whether the current aircraft carrier might survive longer than her World War One predecessor and under whose flag she might serve.

Bob Piper has been with Defence for ten years, the last four as RAAF historical Officer. Prior to this he lived in Papua New Guinea, where his interest in writing and photography first commenced.

As a private pilot he has a natural interest in aviation and specialises, in military history, of both sides, during World War II in the South West Pacific.

Many of his carefully researched articles are based on actual incidents and the reactions of those involved. The original participants have been located where possible and contributed to the stories.
By Sqn Ldr Barry Turner, RAAF

Recently, a visiting staff officer described the RAAF School of Languages as ‘an institute of world standing, housed in a collection of country outhouses with a smell to match’. ‘The outhouses’, are pre-war weatherboard buildings on the foreshore of RAAF Base Point Cook. The smell, nauseating in summer but thankfully absent in winter, comes from seaweed that lies racked over sand exposed at low tide on either side of a decaying jetty. The scrub along the foreshore is thick with tiger snakes in summer. Winter days can be long and depressing and when a dank sea mist closes in, the atmosphere is undiluted Gulag.

The school teaches Chinese, Japanese, Indonesian, Vietnamese, French, Thai and Melanesian Pidgin to students from the armed forces and public service. Most courses extend for 46 weeks. From absolutely no knowledge of their ‘target language’, students graduate as competent interpreters and translators. As a measure of the success of the courses, it is usual for university and college graduates who have majored over three years in languages such as Chinese and Japanese to start at Point Cook ten weeks into the 46 week course. By this time, Point Cook students are sometimes more fluent and advanced in using their language than their university graduate course mates.

Thanks to the School, the Australian Government and in particular the Defence Force, has a group of Asian language specialists who provide a capability to communicate effectively with people in neighbouring countries. This compares very favourably with Australian private enterprise which has always lacked language expertise to back its involvement in Asia. In fact, many of the small number of Australian businessmen with Asian language skills are former members of the Defence Force or Foreign Affairs who studied at Point Cook. For example Dr Stephen Fitzgerald, the first Australian Ambassador to China and now a business consultant, learned Chinese at the School. Additionally, the heads of all Asian language sections of Radio Australia and almost all their Australian born staff are ex-Servicemen who gained their skills at Point Cook.

Many who visit the School for the first time and are aware of its reputation express amazement. How on earth did an air force come to possess a highly-regarded language school, and how can excellence flourish in these surroundings? The answers can be found in the history of the School which has its roots in Australian intelligence operations against the Japanese during the Second World War: a task in which we were severely hampered by an almost total lack of Japanese language training. The story of the establishment of the School is one of misgivings on the part of some US and Australian officers on the validity of providing this training and the emergence of strong personalities within the RAAF who unilaterally initiated Japanese language courses. The School’s physical origins can, appropriately enough, be traced to another unlikely setting: the Coogee Bay Hotel, Sydney. It was in this hotel, taken over ‘for the duration’, that the first Commanding Officer, Max Wiadrowski, now in his late 60s and living in retirement in Melbourne, established the School in March 1944.

Wiadrowski was then a RAAF Intelligence Officer and it was his war-time experience in
the language field and an earlier interest in Japanese which led to his appointment as CO. Before the war, he had been an Adelaide teacher. He knew German, and this ability was to be used in the war. He was also interested in learning Japanese, but opportunities to study that language were very restricted in Australia in the late 1930s. Eventually, he heard of a Japanese language study group consisting of five men, all in their 40s and 50s who met regularly in an Adelaide office. Possibly because they considered him a young upstart, the group at first declined Wiadrowski’s request to join. That they relented was possibly due to his persistence, a quality which was to be essential to the establishment and survival of the School.

On joining the RAAF after a struggle to be released from his reserved occupation, Wiadrowski was posted to Allied Air Headquarters which was based in the AMP Society Head Office in Brisbane. His job was to extract information from such sources as captured documents and prisoner-of-war interrogation reports for Allied Air Intelligence. From there, because of his knowledge of Japanese, he moved to ATIS, the Allied Translator and Interpreter Section, at Indooripilly.

ATIS was a combined US-Australian facility set up to interrogate prisoners-of-war and exploit captured documents. Prisoners captured in the Pacific were usually flown to ATIS as soon as possible and sometimes within hours while the shock of capture was still great. Harry Gordon, who wrote ‘Die Like the Carp’, a detailed account of the bloody mass breakout from Cowra Camp described ATIS interrogators as ‘earnest men with varying degrees of proficiency in the Japanese language’. According to Gordon’s research among ex-POWs, some of the interrogators were ‘so hopeless that prisoners felt tempted to insult them’.

Max Wiadrowski recalls that there was indeed a mixture of experience and ability. Some, such as Captain (later Major) Bennie Abrahams, were part-Japanese and had been brought up in Japan. In fact Abraham’s brother had married into the Imperial Household. His Japanese was faultless and precise. Others were not as skilful and made every effort to improve their language while ‘on the job’. One of the Japanese POWs, Sergeant Hides Kadota, taught Japanese to some ATIS personnel. Wiadrowski learned some Japanese from Kadota, and in turn instructed the POW in English.
The usefulness of ATIS elements in Brisbane and in forward areas was proved often during the war when intelligence gained from captured documents and interrogations led to strikes against important targets. An example is the Allied air operations against massive Japanese maritime transportation movements by camouflaged barges in the New Guinea area. Because of the skilful camouflage techniques, barges were often hard to detect by aerial reconnaissance but were sometimes revealed by ATIS operations. Rendezvous points and times were discovered and aircrews ordered to strike insignificant looking waterways. Resultant explosions showed the accuracy of the intelligence. In New Britain an estimated 390 barges were destroyed as a result of work by linguists.

In the early stages of ATIS, most of the US Japanese linguists were Nisei or second generation Japanese-Americans, but non-Japanese Americans increasingly joined the staff. Although poorly off for Japanese speakers in the early part of the War (in 1940 the US Navy only had 12 competent Japanese linguists) the US approached the problem with customary efficiency and by 1943, one US military language school was inducting students at the rate of 1,000 per course. Australia had done little to match this effort. Some very good linguists had been trained at a Censorship School in Melbourne which was run by a part-Japanese woman, Mrs Selwood. She later became an instructor at the RAAF School of Languages. An ATIS conversion course had been set up to teach military terminology.

Within ATIS, meetings were held in 1943 to discuss Japanese language training for Australians but few positive results were achieved. Some US officers in the Section considered that the Australian character was in some way unsuited to the complexities of language learning and not up to exploring the ways of the Japanese mind. Others were strongly in favour of the project. The senior Australian Army Officer at ATIS was reluctant to commit Australia to language training. The Army had been happy with the Censorship School but later enthusiastically backed the RAAF School to the point where four of the first six courses were comprised of Army personnel. The Navy
showed little interest in language training and only three Navy personnel were included in the initial six courses.

Wiadrowski, whose earlier persistence had gained him admission to the Adelaide group, argued long and persuasively for a course to be established. His boss, Wing Commander Gordon Allman, who was not a Japanese linguist but believed that a school should be set up also argued strongly for Japanese training. Allman had been successful as a car salesman before the war and it was perhaps his salesmanship which influenced RAAF Headquarters in Melbourne. Of course, the matter was also being pursued at a higher level than Wiadrowski was privy to at that time. In his memoirs, 'Adversity in Success', Air Vice Marshall J. E. Hewitt (Ret.) who was twice Director of Allied Air Intelligence during the war, writes of his part in pressuring into existence 'the now well known language school at Point Cook'.

The matter came to a head in early 1944. Wiadrowski, who had been expecting a posting to an advanced ATIS unit closer to the war, was summoned to Allman's office. 'You are on your way', Allman confirmed, 'But you will need your Blues' (winter uniform). Instead of going north, Wiadrowski found himself on an aircraft bound for Melbourne, and meeting with a Group Captain Brown of the RAAF Training Directorate. Brown told him that RAAF Headquarters had made a unilateral decision to establish a language school. It was to be quartered in the Coogee Bay Hotel, and lessons were to be at Sydney University. Wiadrowski was to be Chief Instructor. Although subordinate to a School of Technical Training at Ultimo, he was to be given full autonomy and was to report direct to Brown. Somewhat dazed at the suddenness of it all and perhaps feeling that he had been hoisted on his own petard, Wiadrowski promptly departed for Sydney where classes commenced within a week.

On arrival at Sydney University on the first morning, the situation was not exactly as envisaged by RAAF Headquarters. The RAAF had intended the School to conduct highly intensive ten-month language courses of up to 12 hours class time per day on the lines of overseas military language schools. Sydney University, like most universities even today, was geared to a more leisurely tempo of four to five class hours of language training per week. Wiadrowski recalls that the University meant well but had little idea of what the RAAF intended to accomplish. One lecturer retreated on the first day and another, surprised to find that the course was to be held in the afternoons as well as the mornings, was most put out when ejected from a classroom along with her regular small study group.

Although it would be fair to say that some university staff found it difficult to adapt to the RAAF's 'pressure cooker' methods and the Servicemen were sometimes impatient when things were not moving quickly enough, adjustments were made on both sides. The course settled down to a regular six hours per day at the University and a further four to six under the tutelage of military instructors at Coogee Bay. Transport to and from the University was by hired tram. The school owes a great debt to the University staff and still maintains contact from time to time with one of them, Professor Joyce Ackroyd now at Queensland University.

Contrary to initial misgivings within ATIS, many of the Australians did show a talent for Japanese. The failure rate was high which is understandable in view of the intensity of training and lack of aptitude tests for selecting students. But by late 1944 Wiadrowski was able to take some of his better students on a visit to ATIS to demonstrate what could be achieved. The visit was highly successful and it is easy to detect triumph in a subsequent letter from Allman telling Wiadrowski that, in the opinion of an ATIS Chief Instructor, some of the students were already up to the standard of graduates from US schools.

During 1944 the Army sent a group for training. Then a third course started and the School was well and truly under way. By June 1945 when Allman moved the RAAF component of ATIS forward to Manila by sea, a number of Language School trained personnel were embarked. Most were graduates of the ten month courses but many who failed to graduate were employed in the language field. For example, those with six months training were often used for translating low-level documents. Graduates of the full ten month course were graded as either translators or interpreters according to their aptitude. They served at ATIS in Manila and in forward areas where immediate interrogation of prisoners and
exploitation of documents was needed. The pressure was often great. Information had to be absolutely correct or lives could be lost. Commanders all too often had little idea of how to use linguists and, impatient for intelligence, sometimes badgered and harassed interpreters while interrogations were under way. It is little wonder that after the intensity of the initial course and the pressures of work in the field a few succumbed to a nervous disorder known as 'Japan Brain'.

Wiadrowski somewhat ruefully tells of meeting a repatriation service psychiatrist after the war. On hearing Wiadrowski's name the psychiatrist expressed great pleasure at having the opportunity to meet him. 'After all', he explained, 'you trained some of my most interesting cases'.

By the end of the war the School had separated from Sydney University and developed its own staff and methods. However, the victory against Japan and subsequent rapid demobilization brought problems. Japanese linguists were now needed more than ever for the myriad tasks involved in the military governorship of Japan, but most servicemen had only one desire and that was to distance themselves from military life as soon as possible. Those who stayed were often young men who joined at the close of the war and wanted some overseas experience. Some, particularly those intended for aircrew training but no longer needed, opted for language training and the School survived. One such young man was LAC R. E. Trebilco who recently retired as an Air Vice Marshal and is now Administrator of Norfolk Island.

With demobilization, the Technical Training School which administered Coogee Bay closed in late 1945 and the School moved to the Ascot Vale in Melbourne. However, it was not long before another move was made, this time to Point Cook where accommodation had become available. The School has remained there ever since.

When Japanese language training ended in 1948, 16 courses had been conducted. The reputation of the School was high among those who saw its graduates in action. For example, as early as August 1945 Allman wrote from Manila that Language School graduates were 'quite up to the standard of the average from the Savage and Boulder (U.S.) Schools and fully justify all your efforts.'

From 1946 to 1948 uncertainty prevailed as to whether to maintain a School of Languages in peacetime. There was considerable debate on the type of school needed, its best location and the languages which should be taught. Wiadrowski closed the School in 1948 but one of his former students, Flight Lieutenant Toby Garrick was recalled from Japan to investigate future sites.

Toby Garrick was of Russian parentage and had escaped from Shanghai to Hong Kong in 1938. A year later he sailed to Perth, Western Australia. In Perth, he and a friend bought two old bicycles with almost the last of their money and headed East. Garrick later joined the RAAF and after being trained in Japanese worked as a Linguist in Australia, the South West Pacific and Japan. He was involved in the surrender of Japanese General Baba and his staff in the Halmakeras.

On being recalled in 1948 Garrick looked at several sites but decided upon Point Cook because sufficient accommodation was available. The School reopened under his command in 1950. In that year, as the Korean War was erupting, the School taught its first Russian course. In the following year the first Chinese course commenced.

From the beginning of the School's post-war operations, the emphasis was on a more general type of training than in the war-time period. Students were trained in general language skills covering a wide range of subjects, rather than concentrating on military terminology. The duration of courses was set at 46 weeks. There were intakes from the three Services with public servants also admitted. Civilian native speakers were recruited.

The running of the School has long passed from the Intelligence to the Training Directorate, although some intelligence officers occupy instructional positions from time to time, if they have a high level of language expertise. Similarly, RAAF navigators, Army infantry officers and RAAF clerks who have done well in language courses have served as instructors. However, most Service instructors now have teaching as well as language qualifications and are education officers. Native speakers, who comprise half the staff, are highly qualified civilian language instructors.

A student teacher ratio of approximately four-to-one was arrived at in the 1950s and where possible, classes limited to no more than
10. A system of refresher courses was instituted whereby graduates were required to return to the School at regular intervals; originally every year but now every two years, for two weeks of refresher training as language skills can easily be lost. Greatly improved selection techniques based on aptitude tests were introduced in the 1950s. Tests now in use are highly accurate predictors of course results.

Toby Garrick provided dynamic leadership and developed the School into its present form. In 1954 Russian was dropped but in 1956 the Indonesian Department opened. In 1961 Vietnamese began to be taught, then a French Department opened in 1962 and a Thai Department in 1965. In 1969 the wheel turned the full circle when Japanese was again taught. The Lecturer in Charge was one of Wiadrowski's students from 1945, Laurie Shepherd. The School under Toby Garrick usually anticipated needs as evidenced by the timely opening of the Indonesian and Vietnamese departments in time for 'Confrontation' and Australian involvement in Vietnam respectively. He brought technology into language training and the School, in 1963, was the first institution in Australia to have a properly functioning language laboratory. The laboratory system was completely renewed in 1981 and the School again has the most modern equipment in Australia.

There is a fund of stories about Garrick's methods of alternate persuasion and enforcement in obtaining what he wanted from sometimes unwilling or unwitting authorities, and his superb sense of public relations. Shortly after the language laboratories were installed, his public relations skills ensured crowds of visitors and newspaper headlines such as 'Instant School of Languages' and 'Speaking Like a Native — in 48 Weeks'. He left the School as a Wing Commander in 1968 to become director of the University of New South Wales Language Centre.

Under the following COs, Wing Commanders Gordon Zantuck and Bram Lang, the School consolidated its previous expansion. More recently, in the late 1970s the School has become involved in familiarisation training for defence personnel from neighbouring countries participating in Defence Co-operation training. This commitment has grown rapidly and has included providing expertise in teaching English to teachers in Indonesia, Malaysia and Thailand. Under the direction of the current CO, Wing Commander Brian O'Connell, a $2 million complex was recently constructed at Laverton RAAF Base to house this project, and it is likely this complex will become a separate specialised institution.

Since 1950, Point Cook has produced over 800 linguists. Standards have remained high, based essentially on the methods introduced in 1944. The benefits of the School to the Defence Force and Australia have been considerable. From a military point of view, the School now has a pool of Defence Force linguists for use in times of crisis. The recent Falklands War has driven home the point that conflicts can develop quickly and nations forced to go to war with their existing forces and supplies. This applies to the language field and although the situation in Australia is far from perfect, at least we are immeasurably better prepared than was the case before the Second World War. In peacetime, the defence co-operation program with neighbouring countries has been facilitated. Less tangible but nevertheless important benefits have been provided by the very existence of a Defence Force language school with a concentration of Asian languages. The fact that the School exists and teaches Asian languages is a constant reminder to the Australian Defence Force of the importance of this area. It is fair to say that the Defence Force, more than any other section of the community can communicate effectively with neighbouring countries.

Military personnel trained in Asian languages have often developed considerable respect and affection for the communities and peoples with whom they have subsequently come into contact. Even at the height of World War Two, Wiadrowski and his fellow interrogators occasionally took prisoners, dressed in United States uniforms, to the pictures. He still receives a letter each Christmas from the former POW Hideo Kadota, to whom he taught English. He tells the story of former Eighth AIF men who were selected for Japanese language training in 1946. To provide them with contact with native speakers, Wiadrowski sent them to Tatura internment camp for a week. Before departure they warned Wiadrowski that if they saw any Japanese they may not be able to refrain from killing them. However, families at the camp entertained them with tea ceremonies and were so hospit-
able that the men returned after their week away, totally won over.

As a further example of how face to face contact can break down propaganda misconceptions, Wiadrowski also tells of the time in 1945 when he was sent to Labuan Island to teach some rudiments of the Japanese language to the men of 81 (fighter) Wing who were to participate in the occupation of Japan. They had been amazed when the interpreter assigned to assist them, a Japanese POW army officer, not only spoke fluent English but had a sense of humour!

Of course, those involved in the School do not always bask in a glow of success and achievement. There are times when the 'pressure cooker' techniques used at Point Cook are difficult for students and instructors to bear. Even when such pressure is less apparent, to the Chinese language student battling with a daily stream of new characters and sounds or those studying Indonesian and having to cope with an average intake of 50 new words per day, courses sometimes seem unbearably long and difficult. But at the end of the year most feel satisfaction in having learned a language effectively and efficiently.

To many instructors there is a quiet pride in knowing that excellence has been achieved in their 'outhouses', far from more favoured academic environments. It is a similar sort of pride to that which Max Wiadrowski obviously felt when replying to a letter of congratulations from Gordon Allman soon after the victory against Japan in August 1945; 'We all wish to acknowledge your expression of appreciation for our humble efforts, but we are not so lacking in imagination as to realise that our efforts are insignificant as compared with those personnel in forward areas. We would have achieved much less but for the advice and assistance given in the early stages of undertaking'.

Squadron Leader Barry Turner is an officer of the RAAF, SPECD, INTEL category. He holds a BA degree in Asian Studies and is a Grade A Indonesian Linguist. He is currently Director of Studies RAAF School of Languages.

**ANNUAL PRIZES 1982**

The board of Management has awarded the prizes for best original article of the year (Issues No 32 to 37) to:

1st Prize ($200) AIR COMMODORE R. G. Funnell for his article *Leadership, Theory and Practice*  
(Issue No 35 July — August)

2nd Prize ($75) COL J. P. Buckley (RL) for his article *Great Soldier — Great Christian*  
(Issue No 34 May — June)
By Major A. Holmes, RACT

ABSTRACT

This article examines the proposition that the military elite has an inherent weakness in providing political leadership in underdeveloped countries. The article develops a theoretical framework which supports such a contention by reference to some of the developing nations in Africa. However, by a more detailed reference to PNG it postulates the corollary that by not adopting an interventionist role, the military elite of a new state can contribute to political stability. The article asserts that by its professionalism the Defence Force exerts a cohesive influence on the other elites of the PNG political culture. It further speculates that the military elite could, if opting for an interventionist role, provide stable political leadership.

One of the early assumptions of political scientists was that modernization of new states would come from the activities of their westernized intellectuals, their socialistically inclined bureaucrats and their nationalist ruling parties. However, the common failing was that they ignored the military as a critical group in shaping the course of nation building. Consequently, with the proliferation of military regimes as the key decision making element within new states, there is a paucity of research of the contribution of the military to political stability.

Pye' has suggested that there have been two conflicting images of military leaders in the political role, namely:

a. That of administrative incompetence, inactivity and authoritarianism — mainly from Latin America, and

b. the more recent image of a dynamic and self-sacrificing leadership committed to progress and modernization.

Furthermore, the traditional bias has been to conceive of any encroachment by the military into civilian rule as a retrograde step to liberal governments and to civil liberties. This is perhaps supported by the evidence of rampant militarism in the Middle East and the attendant empirical political instability in that region. The exception, however is Israel, which has been highly stable and which provides impressive proof that new states, created under relatively favourable conditions, do not have to turn to their armed forces for political, social and economic leadership[2]. This phenomenon serves as a valuable warning against hasty generalizations about the role of the military in the emerging states, and has a parallel in PNG.
In identifying such determinants of political development as the social and educational structure, the role of the technical and executive intellectuals, economic development and various elements in the political structure in the new states, Shils has derived certain conclusions relative to modernization. He suggests that new states require an elite for modernization if they are to become liberal and democratic. Additionally, he suggests that by opting to organize a modern Army, and to develop higher educational institutions, a new state is rejecting its traditional oligarchic structure. Finally, he concludes that most new states have an indifferent population and that because of this the modernizing elite — in order to create a political society — has to close the gap between itself and the mass of the population.

Given such determinants of political developments, it is necessary to speculate on the relative importance of the role of the military elite compared with that of other elites. The basis of this relative advantage lies in the military elite's modern form of organization, in that it is usually the best organized structure in a relatively disorganized new state in transition from a traditional society. Additionally, the military has usually been treated generously in the allocation of scarce resources, compared with other civilian administrative elements and political parties.

The political implications of the Army as a modern institution reveal a basic conflict in the theory. This is that the militant establishment provides almost the 'ideal type' for an industrialized enterprise, yet at the same time it is tradition bound with its stress on professionalism and standards of individual behaviour. Given this conflict the question arises as to why the military elite doesn't oppose the forces of change — that is, why don't the forces of custom and ritual dominate the Army? The fact is that in the new states the Armies have tended to emphasize a rational outlook, and to champion responsible change and national development. Furthermore, the outlook of the military elite is largely influenced by contemporary western military technology and acceptance of a World War II model of the Army.

The political implication of this is that the Armies have specialized to such an extent that there is an increase in the numbers of staff to line officers requiring specialized training in industrial skills. Such skills required and obtained are usually more advanced than those common to the civilian community. Additionally, the officers so trained are usually more sensitive to the needs of modernization and technological advancement — which are different needs to those required for command in battle. The consequence of this is that such officers are usually more aligned with the intellectual elite than they are with the rank and file of the Army.

Additional factors contributing to the relative importance of the military elite in new states include the potential for social mobility provided by definite career patterns, the process of 'acculturation' of new recruits and the changed status of the military resulting from its access to modern technology. Pye has identified three distinctive features of Armies which make them more dynamic in demanding changes than other modern type organizations, and these are that:

Firstly, by nature, they are 'rival institutions'. Their ultimate function is the test of one Army against another — and therefore the soldier has a greater awareness of intentional standards and a greater sensitivity to the weaknesses in his own society.

Secondly, because Armies are 'training for war', they are relatively immune to practical tests of their efficiency. This permits an adherence to western prototypes and the ability to remain aloof from day to day concerns.

Finally, Armies can remain somewhat apart from their civilian societies and are thus somewhat divorced from the realities of a traditional society. Consequently they can retain a focus on the standards of the industrialized world.

Given this relative importance of the military elite it is necessary to consider what factors might prompt an intervention in the political affairs of a new state. Janowitz uses the term 'reactive militarism' to apply to the phenomenon that military intervention generally takes place as a result of the weakness, and even collapse, of civilian political institutions. But he also concludes that the capacity of the military to intervene is limited by its lack of political skill and its inability to mobilize mass support.
Shils' argues that the ascendancy of the military in the domestic life of the new states has been a response to the difficulties which the new states have encountered in their efforts to establish themselves as modern sovereignties. Such problems are the result of weaknesses in the new states which are not compensated for by the political institutions which were inherited, or established, at the moment of independence. Finally Johnson has observed that it has been the failure of civilian leaders to act relevantly and consistently which has paved the way for the military to penetrate civilian institutions.

But if military intervention is proceeded with, there must be a measure of performance by which to judge such activity. In Huntington's perspective performance is measured in terms of the ability or inability of a regime to produce economic development and increased expenditure for social welfare. But Janowitz asserts that, viewed overall, military regimes do not produce higher rates of economic growth. Janowitz focuses on the issue of whether military regimes could help create some of the mass apparatus which makes possible the shaping of a minimum level of political consensus. He suggests that either the military would have to create such an apparatus or it would have to assist civilian groups to create appropriate agencies. He thus suggests that military regimes have not been successful in attaining this goal, and that the trend in fact has been towards expanding the police and paramilitary agencies as agents of political power. This could also suggest the reason for the trend toward totalitarian military regimes — as potentially with the intellectual elite. It thus depends on the degree of cohesion between the elites as to whether or not political stability ensues.

Observation of the political history of new states shows a preponderence of three situations — control by a charismatic leader, control by military regimes and control by a single authoritarian party — although the sequence is not fixed and can be combined. Scott asserts that it is not possible, due to lack of empirical data, to construct any general theory about these control relationships to permit a prediction of political behaviour in a particular state. In PNG for example it would have been rash to predict a post-independence specific sequence of events. However, it would have been reasonable at the time (1972) to expect the growth of more authoritarian party structures (e.g. PANGU Party), perhaps the emergence of a charismatic leader (e.g. Somare) and certainly the involvement of the modernized and nation conscious elite of the then Pacific Islands Regiment (PIR) — now the PNGDF.

The colonial experiences of Africa are of relevance to PNG as many parallels are evident. An example of a Military bureaucratic regime is the Congo, where the Belgian aim was to establish centralized administration sympathetic to the demands of European commercial interests. But this was thwarted by the anarchy which followed independence in 1960 and the growth in Army control to the point where it became absolute in 1968. The People's Republic of Congo, with a population of about 1.3 million has a Marxist orientation, although successive military coups and assassinations have largely resulted in such policies being ignored and only the slogans and rhetoric being retained. The Congo has great economic potential with potash and phosphate deposits, offshore oil fields and a developing sugar cane industry. No full-scale policy of nationalization has been considered, although the foreign oil companies were nationalized in 1974. Yet vast new phosphate deposits have been handed over for exploitation by a foreign concern, in which the Congolese state has only a 15% interest. The Army is totally politicized and an ultimate source of authority is difficult to locate. Could this be the future way of development for PNG or is that country likely to be an exception to the somewhat textbook blueprint of military elite political incompetence demonstrated in the Congo?

Other states in West Africa (e.g. Niger and Mali) remain relatively stable because they are poor and depend heavily on French assistance. Overall, civilian elites have occasionally been replaced by military rulers, but the colonial legacy of centralized administration has avoided a catastrophic level of internal disputes. The period after independence usually sees an attempt by the party, having won power under the rules prescribed by the colonial authority, to consolidate that power on a permanent basis.

A second feature of the African experience is the style of politics employed which emphasized total control of social and economic
activity, rather than formal institutional distinctions. States such as Guinea, Mali, Tanzania and Ghana developed a radical ideology emphasizing a unified and disciplined national effort towards the realization of the goals of social modernization. Contrasting states have been the Ivory Coast, Kenya and Nigeria which have developed a pragmatic-pluralist approach, emphasizing a more conservative attitude towards the role of government in the management of the economy, and in the pursuit of goals of economic development.

The two main points of relevance in distinguishing the New States of Africa from those of Asia — and thus drawing the parallel with PNG — are that firstly, there has been a relatively short period of colonial involvement. In Asia such new states as India, Pakistan and Burma had built up a political culture which could sustain the shock of colonial withdrawal. Secondly, PNG has benefited from the success of nationalism in the Asian new states in that it was not concerned with a physical resistance to the conquering by a colonial power. Consequently, it has been more concerned with creating a stable environment for the transition of power and its subsequent exercise.

The political history of PNG, suggests a counter to the theory of the weaknesses of the military elite in providing political leadership in a new state. If one includes in a definition of 'political leadership' the influence of the countervailing powers of the different elites in a society, it is then reasonable to assert that the military elite can contribute to political stability.

The empirical evidence relative to PNG indicates that the influence of western culture has in turn influenced the professionalization of the military, and hence its political neutrality. Yet despite such an exposure to western culture PNG, because of its nature, regards itself as a non-aligned country and a part of the Third World. A brief chronological review of the political development of PNG will therefore serve to illustrate these stabilizing influences and their contribution to the professionalization (and thus the effective neutralization) of the military elite.

European control over New Guinea (as it then was) dates back to 1828 when the Netherlands claimed sovereignty over the western half of the island. In 1884 Britain and Germany divided the eastern half of the island, and by 1888 British sovereignty over the South Eastern section of New Guinea had been proclaimed, whilst Germany retained the North Eastern section. In 1902 Britain handed its territory over to Australia, the transfer of power being formalized by proclamation of the Commonwealth's Papua Act in 1906. However, the primary Australian interest in New Guinea was economic.

The military connection with PNG dates back to 1885 when Major General Scratchley, a military engineer, was appointed as first special commissioner by the Colonial Office. In 1888 William Macgregor, the new administrator, established districts which were controlled by resident officers responsible to him, and to his executive and legislative councils. Macgregor then used Papuans within this framework as agents of European rule. In 1890 Macgregor set up and armed, native constabulary attached to European officers. This force, which was very much a police force, remained the only armed force in the Territory.

Following the occupation of German New Guinea by the Australian Expeditionary Force in 1914, it became administered by Australia under a mandate awarded by the principal allied powers in 1919. This mandate was confirmed and supervised by the League of Nations. In May 1921 the New Guinea Act was proclaimed and provided for the establishment of a civil administration. Interestingly, the then Commonwealth Government kept the emphasis in New Guinea on economic expediency, while at the same time supporting a different policy in Papua. Perhaps this could be an underlying cause of any future political instability in the country, exacerbated by the already present tribal differences. However, the aim was to preserve the integrity of the native society at this time, and such policies were not an end in themselves but a means of easing the transition from the primitive to the modern world.

The effect of World War II on indigenous attitudes towards European authority is difficult to estimate, although it is apparent that many of the characteristics of a traditional colonial society survived. Certainly, as Hudson has indicated, a good deal of the old indigenous awe of the European was eroded by exposure to such war time activities as whites doing menial work and the apparent high standing of the US negro in the military
forces. However, since World War II the country’s affairs have been marked by stronger and more purposeful Governments. This has been helped by the rise of bureaucratic and educated elites from the mid 1960s and an increased indigenous participation in politics (from 43% in 1964 to 83% in 1969). But the remarkable omission in the development of PNG has been the lack of any documented evidence on the influence of the military. That it shares the status of an elite element in PNG society is undisputed. The 3514 volunteer members of the PNG Defence Force (PNGDF) have been recruited from the better educated elements of the more than 2.5 million population. Once recruited, the volunteers undergo a process of professionalization that builds on the tradition and high distinction of the Pacific Islands Regiment (PIR) which was formed in 1940. This higher status is shared with the political, bureaucratic, educated and police elites and is reflected in higher salaries, better housing standards, superior training systems and modern values. It is within this framework of cohesion between the elites that the seeds of military intervention would normally lie. However, the situation in PNG is unusual in terms of development of a Third World State. Certainly, in organizational terms, the PNGDF is 'modernised', and hence any centralization of power would accord well with its pattern of organization. Such centralization of power is the essence of political modernization, but as Welch has observed, their centralization is effective ‘only if the right of the central entity to rule is widely accepted’. In the case of PNG this central entity is clearly political and not military. In the context of military intervention in politics, the question of authority centres on the act of seizing control — but in PNG would this be regarded as a rightful act, or as usurpation? In other words, by ousting the civilian government would the armed forces become the legitimate wielders of authority? Could the armed forces develop the values and beliefs, the community of opinions and needs that would constitute authority? The empirical evidence in PNG would suggest a negative answer to this question, in that the political forces in being are providing stable leadership. Somare’s first period of office (1972-80) saw political stability, and this was largely consolidated by Chan until the recent elections. The relatively sound management of PNG’s economy has been conducive to political stability, in that its fiscal and monetary policies have resulted in very low rates of inflation, a strong currency internationally and a reasonable insulation of the economy against dramatic fluctuations in the export prices of its primary products. But continued political stability is by no means guaranteed, and it will have to be administered by the leadership with the assistance of an effective public service. There are several inherently stabilizing features in the PNG political culture, but these features will need careful management. For example, ‘80% of the population lives in traditional villages’ and thus any political (or military) leader’s policies must be seen to be successful by these villagers. Being dependent on agriculture, any failure by the government to produce the expected goods and services could give rise to a strong local leader opposed to the central government. This problem is accentuated by the current aid program from Australia, which is reducing on a sliding scale from the A$930m provided during the period 1976-1981. Previously, the government policies required little more than a mechanism for distributing funds, and such suitable political and bureaucratic arrangements between the central, provincial and local governments were developed. With the emphasis changing from funds distribution to the development of a cash flow, the inherent stability of a distribution system is being eroded. An additional stabilizing feature of PNG’s culture is the heterogeneity of its population, in that no one group in the country is large enough to dominate the rest. But a potential problem in this feature is the under-representation of certain of these communities in the various modern hierarchies such as the bureaucracy, Defence and private sector. But political stability has been assisted in this sense by the absence of a dominant elite/mass gap, and indeed by the absence of a dominant elite. Herein lies the crucial element to PNG’s continued political stability, and the role of the PNGDF in that stability. Brigadier General Diro, the former commander of the PNGDF has now emerged as the leader of the opposition parties in the PNG political structure. As the commander of that force he was both com-
petent and popular, and also commanded the respect of other community members and elite groups. The PNGDF by the very nature of its organization, not only recruits the better educated elements of the population from all regional and tribal areas, but also welds them into a professional and modern entity. It is an established fact that members of the PNGDF enjoy a village status comparable to that of the Ghurkas of Nepal, and enjoy a high respect within those communities.

In their professional role the more senior commissioned officers are mixing with members of other elite groups and are thus contributing to the evident elite group cohesion. Should the political or economic climate in PNG change, then Diro is well placed to harness this elite group and has the potential to weld it into a dominant group. It is obvious that the inherently stabilizing features in PNG’s political culture can work as well for a military leader as they can for a political leader; either leader will still be psychologically and emotionally part of his ‘own people’. The crucial economic question at the moment is to decide what form economic development should take — for example, should private enterprise dominate or should there be a greater distribution of economic wealth through tribal villages?

Given the almost unique nature of the political culture of PNG, and the largely institutionalized values of a Western society, it is contended that the PNGDF has played a professional, apolitical role. This role, in a developing Third World country, has contributed to political stability. It is therefore arguable that the military leadership has contributed to such stability by its contribution to elite cohesion. It is equally arguable in the case of PNG that the military could intervene in its politics, given significant political and economic crises. In such a situation it is contended that the military elite, led by its former commander Diro, could provide stable political leadership.

NOTES
12. Ibid., p 59.
15. Ibid., pp 261-268.

BIBLIOGRAPHY

Texts
Kautsky J. H., Political Change in Underdeveloped Countries, John Wiley and Sons, N.Y., 1967
Van Doorn J., Military Profession and Military Regimes, Mouton, Paris, 1969
Welch C. E., Soldier and State in Africa
Wolpin M. D., Military Aid and Counterrevolution in the Third World, Lexington Books, 1972
This article seeks to define the relationship that should exist between the Australian Army and the news media in a war on Australian soil. It discusses the type of coverage that the local and overseas media would give to the war, examines what bearing this will have on military operations and suggests a number of measures for control of the media at national, theatre and tactical levels. The current state of preparedness of the Army in matters of public relations and media awareness is also examined in detail and specific deficiencies are identified. The article concludes that the Army must improve its relationship with the media and embark on an extensive public relations training programme, if it is to receive the type of media coverage required to win an Australian war.

"Our fellow citizens think that they have the right to full information in a case of great concernment to them, for it is their sweat which is to earn all the expenses of the war and their blood which is to flow in expiation of the causes of it."

Thomas Jefferson

THE cornerstone of democracy is the right of the individual to freedom of thought and expression. In a modern democratic society, the guardians of that right are the news media, namely the press, television and radio. The media see themselves having cognate roles as impartial observers of events, arbiters of public attitudes and chroniclers of the truth, although they are often criticized in the way they perform these functions on behalf of society. A free and independent media is, however, a sign of the political and social health of a nation and any attempt to unduly circumscribe their activities clearly places democracy itself at risk.

When a free society resorts to defending itself by force in armed conflict, the presence of the media on the battlefield is inevitable. When it comes to fighting a modern war, however, it has become increasingly difficult for a nation to achieve military success while retaining a philosophy of total freedom of access for the media. In recent years there has been a revolution in the speed and visual impact of communications that has given universal exposure to the violence of modern warfare. This has had a profound effect on the attitude of society to war, as was illustrated most graphically by the disaffection of the American people with the Vietnam War, which was described as being 'lost in the living rooms of middle class America'.

It is also worth noting that the interests of the armed services and the media seldom coincide. The journalist regards it as his right, albeit his obligation, to report a war in the way he sees it, which may often be in an unfavourable light. He owes his allegiance to his readers and not to the political or military objectives of the war. The soldier, on the other hand, is preoccupied with attaining a successful military solution to the war and is unlikely to be tolerant of divergent opinions. Consequently an atmosphere of mistrust and antagonism often permeates military/media relations, a situation which the Department of Defence admits is prevalent in the Australian Defence Forces today.

In an era of news which knows no boundaries, wartime relations between the media and the armed services must be closely regulated. This places the military and the government in something of a conundrum. To allow the media total and unrestricted access to all facets of military operations is to risk losing a war, and yet to deny access is the act of a totalitarian regime. Clearly a compromise is required, but in electing to pursue this course of action the
military and the government clearly place
democracy itself at risk — it could be said
that democracy is placed in the balance.

The Australian Army has not yet examined
its options for dealing with the media in war.
This article seeks to redress that situation by
determining the relationship that should exist
between the Army and the media in war, with
particular emphasis on a war on Australian
soil.

EXTENT OF MEDIA INVOLVEMENT

'In Australia events do not happen unless
the media deign to announce them.'

Brian White

Extent of Coverage

Any war that is fought in Australia would
attract the immediate attention of both local
and overseas media interests. Coverage of the
war by the Australian media would in itself be
quite extensive and would only be restricted
by disruption to tenuous communication links
or by the inaccessibility of some areas of
operations. The nation has a highly organized,
modern and diverse media system, which is
capable of providing detailed and continuous
coverage of any war. There are, for example,
some 600 metropolitan and provincial newspa­pers produced in Australia, not including
the extensive foreign language and suburban
newspapers or the flourishing periodical press.
The broadcast media also service most major
population centres, providing coverage through
some 225 medium and nine high-frequency
radio stations and 132 television stations.

The coverage given to a war in Australia by
the overseas media would be governed by other
world events. If the war was being fought as
part of a larger global conflict, the rest of the
world would be kept informed of major develop­ments in the Australian theatre by the
reports of overseas news agencies or freelance
reporters. A war being fought exclusively on
the Australian mainland, however, would be
the focus of world attention. It would be
reasonable to assume that our traditional allies
would support Australia in her hour of need,
either through military aid or a direct commit­ment of forces. The newspapers and tele­vision networks of these and other interested
neutral countries would send a phalanx of
reporters to Australia to keep abreast with the
latest developments in the war.

At any point in time, therefore, there could
be a large number of television, radio and
newspaper reporters who would require access
to forward operational areas and who would
resist the imposition of restrictions by the
armed services, if they impeded their ability to
cover the war. The Australian Army has not
been exposed to this degree of media pressure
before, even during the Second World War,
yet there is nothing in current doctrine or
official writings to indicate that the matter has
been given much serious thought. There is
ample justification for military planners and
potential field commanders to feel concerned
about this state of affairs.

Type of Coverage

There is much quoted media dictum which
states: 'radio tells first, television shows and
the press should explain.' While this is an
over-simplification of the roles and functions
of the modern media, there is little doubt that
radio is not only the first, but one of the most
effective news sources. A radio journalist is
able to give an eyewitness account of events in
an operational area, which can be relayed
instantaneously via satellite to listeners around
the world. While it lacks the visual impact of
television, radio makes an indelible impression
on its listeners who will normally accept the
news it conveys, even if they often forget the
source. The immediacy of radio and its ability
to influence a large number of people can
cause problems in war. A radio journalist
conducting a live broadcast in a forward
operational area can often present an emotional
and distorted view of the war. The Army must
be mindful of this type of journalism and must
make sure that the journalist is fully briefed
on the tactical situation before his broadcast
and, rather than impose rigid controls, encour­age him to present a balanced account of any
action he witnesses.

Since radio has become the first messenger
of the news, newspapers are inclined to be
more interested in interpreting the news and in
educating their readers. Lenin described a
newspaper as 'a collective agitator and organ­izer', a description which is remarkably apt
for the western press of today. Newspapers
continue to be a powerful means of influencing
society and in war their correspondents require
very different handling to their radio and
television counterparts. They are generally
more interested in the background to conflict, the options open to the commander in prosecuting the war and the reasons for military success or failure. Military personnel who brief newspaper correspondents will need to ensure that their briefings are factual, accurate and, above all, honest in the face of difficulty or failure.

The most significant influence on media coverage of modern conflict has been the introduction of television into the area of operations. Brian Crozier, of the Institute for the Study of Conflict, reflects: ‘its importance in the conflicts of our times is undeniable, and by virtue of the brevity of its history, unprecedented’. While television has provided a distinctive element to journalism its use in war, however, has created mammoth problems for both the armed services and the media industry. Television has an inherent bias towards depicting conflict in terms of visible violence rather than presenting a balanced account of the real issues of the war. An item of television news, for example, contains about 20 feet of film at five words a foot, which allows very little scope for detailed commentary on an operational incident. In 720 B.C., the Greek poet Hesiod in ‘The Theogony’ may well have been referring to modern TV journalism when he said:

‘We know to tell many fictions like to truths, and we know, when we will, to speak what is true.’

Many of the practices adopted by the television industry are also largely to blame for inaccurate and biased reporting. For reasons of time and economy, television news and current affairs programmes use film as a lexicon and, by a process of dubbing and editing, use it to achieve a desired visual effect or to support a particular story. After an exhaustive enquiry into this type of practice on British television news programmes, the Glasgow Media Group felt compelled to report:

‘One gets the impression of a trade which has hardly ever thought out its own basic premises, but continues, come hell or high water, to rest its case on a few unexamined assertions ... .

Of course what they call the news is biased; or if that seems too loaded a word, artificially shaped. It is the result each day of a process of selection so speedy and habitual as to seem almost instinctive.’

Consequently, there will always be a divergence between television news and the truth, stemming not so much from the inadequacies of journalists but from the exigencies of the profession itself. There is little that the armed services can do about this state of affairs, except to encourage good editorial control whenever possible and to be aware that television news teams in operational areas need to be handled with considerable caution.

As far as the Australian media is concerned, it should be remembered that it is owned essentially by three major publishing groups, namely Fairfax, Murdoch and Packer, who also own controlling interests in a number of commercial television and radio networks. Given the capacity of the media to mould public opinion, the attitudes and values of this select few will be decisive in determining the ultimate success of the Government’s war strategy.

MEDIA INFLUENCE ON OPERATIONS

‘One wonders if in future a democracy which has uninhibited television coverage in every home, will ever be able to fight a war, however just, however good the cause — self defence, resisting aggression or even fighting under the United Nations flag.’

Robin Day

It is to be hoped that this gloomy prediction by Robin Day, the eminent BBC journalist, has no relevance to a war on Australian soil. Presumably, if such a war was to occur, there would be a surge of patriotism throughout the nation and the desire to drive an aggressor from our shores would transcend any feelings of revulsion or shock at the horrors of modern war.

The moral repugnance to war that has developed in western societies in recent years, however, warrants further serious study. It has galvanized public opinion against military intervention, limited the ability of governments to make decisions and maintain public morale and has been a destructive influence on the morale of troops involved in fighting the war. As Brigadier Palmer succinctly puts it: ‘as a nation we have more to fear from lack of popular support for military action than from a potential enemy.’ The mass media have played a catalytic role in this regard by presenting views and opinions which are outside
the personal experience of the individual. The armed services should be particularly mindful that the influence the media exert over the public, can have a direct bearing on the conduct of military operations.

**Public Opinion**

Public opinion is a dominant force in the formulation of national policies by democratic governments. In war, it is easily swayed by powerful impulses and emotions and governments need to be particularly vigilant in the way they handle and present major issues. Irrespective of the destruction and loss of life that may occur, a war on Australian soil is unlikely to evoke the domestic outrage that occurred during the Vietnam War. Defence of one’s homeland is a much nobler cause than intervention in a foreign war. It is conceivable, however, that public opinion in Australia will be a dominating and pervasive influence over the options exercised by the Government in fighting such a war, for example, the use of nuclear, chemical or biological weapons by Australian forces.

In war, the media are the link in the relationship between the armed services, politicians and the public and their influence is likely to increase further with advances in technology. The Australian Army must recognize the influence the media have over the public. It is an Army responsibility to ensure that the media are well informed of the necessary facts, particularly when tough or unpopular decisions have to be made. Military actions will always be open to misinterpretation, although the likelihood of this occurring will diminish if the Army develops sound relations with the media for the passage of timely and accurate information on the major issues of the war.

**Morale**

The news media are a significant influence in preserving public morale during war. In addition to reporting the war, they have an added responsibility or keeping the public informed of government decisions and for disseminating all other forms of official information. Rumours and hearsay abound in war and a steady flow of reliable information through the media will do much to lessen the harm they cause and will bolster public confidence.

Morale within the armed services is very much dependent on the state of public morale. If a soldier believes he has the support of the civilian population and that he is fighting for a just cause, his ability and willingness to fight will be greatly enhanced. The media can often cause a major downturn in morale in the services through biased, inaccurate or derogatory reporting. This will normally have the effect of alienating the soldier from society, to the detriment of both, as Brigadier Palmer explains: ‘internal demoralization and loss of will could prove fatal to the armed services and country alike’. While the media must make constant judgements about the effect that their reports are likely to have on morale, the Army must also be conscious at all times of the interpretation that is likely to be placed on their actions. The Army’s ultimate responsibility in this regard is to be scrupulously honest and, through discipline and training, avoid all forms of reprehensive behaviour.

**CONTROL MEASURES**

‘Taking into account that when they meet, the interests of the Army and the press are seldom the same, the only productive relationship for both sides to aim for, is to achieve trust and confidence within a set of agreed ground rules at all levels.’

Maj.-Gen. Scott-Barrett

**National Control**

The current peacetime controls that are placed over the media are unlikely to be effective in war. There is a form of voluntary control which is known as the ‘D Notice’ system and a Commonwealth Television and Broadcasting Act, which is essentially concerned with questions of media ownership and programme quality. Other organizations such as the Press Council of Australia, the Australian Journalists’ Association and the Media Council of Australia are media-controlled bodies whose efficacy in matters of national control is seriously in doubt. None of these organizations are likely to offer effective wartime controls.

During the Second World War, the United Kingdom and Australia exercised control over the media through their respective Ministries of Information. In both instances these organizations had disastrous records of incompetence and mismanagement, which in the
United Kingdom culminated in a scandalous debate in the House of Lords. Despite this somewhat discouraging precedent, there remains a need for some degree of national management and control over the media in war. This may well take the form of a Media Council consisting of government, media and military representatives, who would have executive responsibility for ensuring that media coverage of the war conforms to a previously agreed set of standards and controls.

Censorship

Censorship is a broad topic which warrants a separate article in itself, hence only the most vital issues will be examined here. There are two principal reasons for censorship in wartime, namely, the protection of official information and the preservation of morale. Due to changes in technology and public attitudes, these reasons have less significance now than they had in previous conflicts, such as the Second World War. These same changes have also made official censorship a most difficult and time-consuming undertaking and have placed the concept of military censorship in doubt.

We live in an era that has seen an information ‘explosion’ and society has become accustomed to receiving full and accurate information on almost every issue. In a society which has grown accustomed to the ‘news leak’ and which will soon have legislation which will permit total freedom of access by the individual to official information, the need for official censorship to protect public morale is increasingly difficult to justify. Similarly, advances in technology which permit real-time radio and television transmission from areas of conflict, make censorship an almost impossible undertaking. Accordingly, censorship in future wars should only be considered for concealing information of long-term intelligence value. Consideration may also have to be given to placing a time ban on some live broadcasts which are likely to pre-empt impending military operations. To this end, the peacetime ‘D Notice’ system could be strengthened in war to be made obligatory for all elements of the media including the incorporation of punitive measures for non-compliance.

Control in the Area of Operations

One of the most significant lessons of the Vietnam War was that media personnel should not be allowed total and unrestricted access to an operational theatre. In an Australian theatre a system of accreditation should be used to control media representatives. An accredited journalist would have access to military briefings, would receive a degree of protection and would have some entitlements to transport and accommodation. The alternatives to accreditation have little to recommend them. They would invariably result in the area of operations being inundated with journalists with no credentials or representing some obscure publication, with no other objective than to achieve a ‘scoop’ at the war.

It is almost certain that the media would generally resist accreditation and would interpret it as being contrary to the democratic principle of freedom of the press. It is not suggested that the armed services would select individual correspondents, but they should lay down a number of criteria for their selection, to include a degree of interest in, and knowledge of, defence matters. In view of the dearth of defence correspondents in this country, the Australian Army should be prepared to foster these journalists with a genuine interest in defence in peacetime, as a means of gaining knowledgeable and reliable correspondents in war.

While accreditation might be a contentious issue for many in the media, it is interesting to record the comments of two eminent Australian journalists on this matter. Firstly, Mr. Denis Warner:

‘Accreditation should be rigid and granted only after a proper security clearance.’

Secondly, Mr. Frank Cranston, of the Canberra Times:

‘Before any war correspondent is accredited, I think the sponsoring organization should be required to demonstrate that he has a firm grasp of military history and a real interest in the subject which fits him to interpret what is going on. . . . I believe the Army has the right to know and feel secure in the knowledge that it will be reported faithfully and fairly by somebody with a grasp of what he is about to undertake.’

The options available to the military for the control of media representatives and the release of information within an operational area are limitless. These may vary from planned visits to forward operational areas under the control of a Public Relations Officer (PRO), to infor-
mal access to units on a time or opportunity basis. If an atmosphere of complete trust and confidence is to be engendered into media/military relations, the number of restrictions that are placed on access and movement must be kept to a minimum. In this instance, members of the Army must become accustomed to carrying out their normal operational functions while media personnel and equipment record their actions. Another possible solution is to assign journalists to particular formations which would give them a feeling of identity but may limit their overall perspective of the war.

Irrespective of the methods of control that are used, most of the official information that is to be passed to the media should be released through regular press conferences. These conferences are the key to a successful relationship between the media and the military in an operational theatre. Commanders and their staffs must be prepared to conduct these conferences and briefings on a candid and personal basis and should not be afraid to answer questions if it is within their competence to do so. The British Army experience in Northern Ireland has effectively demonstrated that this type of exposure has been largely responsible for their public relations successes in that conflict.

CURRENT PROBLEMS

'The fact is that there is no official doctrine on this subject. In recent conflicts the policies have been developed to suit the particular need at the time.'

Defence Public Relations Statement

Doctrine

The above statement reflects the current status of doctrine for public relations in war in the Australian Army. As the role of the Army in peace is to train for war, this situation is obviously far from satisfactory. The Army should be developing policies and procedures that could be put into effect in peace, and would require little modification on the outbreak of war. Each unit and formation should have its own public relations plan which delineates responsibilities for public relations and contains detailed guidance for dealings with the media.

The current policy or public comment and dissemination of information by the peaceime Army is guided by a Ministerial Directive and promulgated as a Defence Instruction. While this Instruction is less restrictive than previous legislation and gives commanding officers and their rank equivalents much wider scope than they had before, it is still too negative in outlook and places too much reliance on PROs to be a useful document in war. With the advent of live television and radio coverage in war and the likely absence of censorship on a general scale in any future war in Australia, public relations policy must adopt a more positive outlook. If the British Army experience in Northern Ireland is any indication, the public image of the Army in any future war will be in the hands of young officers and NCOs who are most closely involved in the fighting.

Public Relations

The problem with the Australian Army today is that it is not getting the public relations it wants or deserves. The current system of directly commissioning trained journalists into public relations appointments is partially responsible for our peacetime public relations plight and is unlikely to satisfy our requirements in war. PROs are regarded as lapsed journalists by the media and as pseudo-officers by those in the Army. Their military experience is particularly limited and is unlikely to improve while they continue to serve in a domestic capacity on military district headquarters.

The needs of the Army would be better served by using the present public relations staff positions as part of a regular officer’s career progression, following suitable training and preparation. The experiences of the New Zealand, United States and British Armies tend to support this view. There is a need for a limited number of qualified journalists to provide technical advice on media matters. It is suggested that these appointments are only required at the Army Office and Defence Central level and that in peace they could be filled by civilians. Robin Day sums up this argument with some conviction:

'A person gets the public relations he deserves. I cannot remember who Field-Marshal Montgomery’s PRO was. I do not agree that you want specialized public relations officers who are trained in the mystic art of public relations. I do not believe there is a
such a thing. Good public relations is simply good leadership."

Another area of concern is the role of the unit PRO who seems to spend most of his time taking pictures or writing human interest stories for the Army Newspaper. This officer receives no formal training in media matters and relies exclusively on the paternal advice of the district PRO for any dealings he has with the media. If the Army is to project a credible public relations image in war, unit PROs need to become more active in the performance of their duties in peace. This will require training for the individual and the preparation of publications and directives to assist him in his regular duties.

Training

If the Australian Army is to make maximum use of media resources and develop greater self-reliance at the lower levels of command, a major training programme in public relations needs to be implemented. At present the only media training conducted in the Army is in the form of media awareness training at the Australian Staff College and Senior Officers Media Awareness Courses (SOMAC) of two days’ duration, conducted four times a year, for officers of one and two star level. The SOMAC programme only serves to increase a senior officer’s awareness of the importance of good public relations to the Army and does little to develop his ability to confidently cope with media pressures. A Junior Officers Media Awareness Programme has also been proposed for Army captains and equivalents, although the level and type of training to be undertaken has yet to be finalised.

The training programme required by Army would include public relations modules at RMC and OCS and for junior NCO promotion courses. More advanced training would then be given at the Junior Staff College, the Command and Staff College and on senior NCO and warrant officer courses. The SOMAC Programme should include an initial course of at least five days’ duration and should make provision for a one or two day annual refresher course. Training on all of these courses would be related to rank and responsibilities and would include such topics as media relations, radio and television interview techniques and the preparation of press releases. Additionally, specialist training would also be required for Unit PROs and, if a previous proposal is accepted, for regular officers filling public relations staff appointments. The experience gained by other ABCA countries in this area would provide useful guidance on the type of training that should be undertaken.

Credibility

Finally, it is worth considering ways in which the Australian Army can restore some of the credibility it has lost with the media and the Australian public in recent years. The first requirement is for officers, particularly senior ones, to develop a more understanding attitude towards the media. If a relationship of trust and confidence with the media is vital to our success in war, we must begin to develop it in peace. The Department of Defence Public Relations report on the Senior Officers Media Awareness Course identifies our current problems quite explicitly:

‘Traditionally senior officers of Australia’s Armed Forces had a deep mistrust and fear of the media. Service officers regarded the main role of their small corps of professional public relations officers as protection from the press and to keep the press as far away from themselves as possible. If a pressman was intrepid enough to break the barrier and confront a service officer, he would be met by the ubiquitous “no comment”, a disastrous phrase under any circumstances and certainly not designed to promote harmonious relations between the Services and the media.”

While this report is conveniently, and rather diplomatically, written in the past tense, many of the conditions it describes remain valid today. It is pleasing to note, however, that attempts have been made in recent months to get senior officers to give more press conferences and to appear on live television programmes. The conduct of Defence Information Seminars in open forum in a number of State capitals is also a step in the right direction.

These recent trends must be continued if we are to successfully bridge the credibility gap between the Army and the media that has developed over a number of years.

It is also important that we get young officers and soldiers involved with the media. Initially this will require some briefing or training, but it will pay great dividends in
peace as a recruiting incentive and it is invaluable training for war. We must forget our inhibitions about young officers or soldiers being interviewed or filmed by the media, for it is at this level that our real capabilities are revealed and our reputation for being a dedicated, disciplined and professional Army can only be enhanced.

CONCLUSION

'If the trumpet gives an uncertain sound who shall prepare himself to do battle.

Corinthians (xiv, v. 8)

Any war that is fought on Australian soil is likely to be inundated by representatives from both the local and overseas mass media. Military operations will be subject to radio, television and newspaper coverage by journalists and news teams who will require regular access to forward operational areas. The type of coverage that will be given to the war could vary from live television or radio broadcasts depicting the more superficial and dramatic facets of war, to thoughtful newspaper articles that examine the major issues behind the war. The sheer size and complexity of the anticipated media commitment to the war, indicates a need for varying degrees of control over media resources at national, theatre and tactical levels. These controls would be implemented more to co-ordinate media activities than to deny reputable journalists their right to report the war.

Recent history has shown that public opinion has become a dominant issue in modern conflict. Advances in technology have served to bring the realities of every minor tactical battle into the public eye, while TV in particular has roused strong emotions with its evanescent glimpses of the brutality of war. Although it is to be hoped that public support for a war on the Australian mainland is assured, the armed services still have an obligation to see that the public, through the media, receive the most accurate information about the status of military operations.

In the absence of any appropriate doctrine, the Australian Army is hard pressed to develop suitable relations with the media in preparation for war. Due emphasis must be given to producing this doctrine which should consider the use of regular officers in public relations staff appointments and which should incorporate a comprehensive training programme for officers and other ranks in public relations and media awareness. Finally, it is vitally important that the Australian Army makes a firm commitment to developing sound relations with the media based on mutual respect and trust. Considering our indifferent public relations record in recent years, it is a commitment that should not be taken lightly.

RECOMMENDATIONS

The following recommendations are made:

- The current practice of appointing trained journalists to public relations appointment should be terminated and these positions should be filled by regular career officers.
- Formal doctrine should be promulgated for public relations in war.
- A comprehensive training programme in public relations and media awareness should be introduced for both officers and soldiers at regular stages in their careers.
- A system of accreditation should operate for journalists attached to Australian forces in war.
- Censorship in war should only be invoked to protect items of long-term intelligence value.

NOTES

6. ibid.
7. White, p. 91.
17. ibid.
23. The Freedom of Information Bill is scheduled to be read by the Australian Parliament in the latter part of 1980. The advice I received from senior Public Relations and Public Information officers in the Defence Department indicates that it is almost certain to become law.
24. Warner, D. Letter to the Australian Staff College.
25. Cranston, P. Letter to the Australian Staff College.

BIBLIOGRAPHY

Books:


Articles:

Official Publications:
Defence Instructions (Army) Administration 08-1. Public Comment and Dissemination of Information by Members of the Defence Force.

Letters:
Mr. Denis Warner, letter to ASC dated 19 May 1980.
Mr. Frank Cranston, letter to ASC dated 28 April 1980.
Department of Defence (Public Relations) PRLO 52/80 dated 4 July 1980.

Lieutenant Colonel Peter Fitzpatrick is currently the Commanding Officer 2 Signals Regiment. He has held various appointments since graduating from OCS, Portsea in 1966. This article first appeared in the Fort Queenscliff Papers.
IN 1943, after the first New Guinea campaign, I became the Land Forces representative with Rear Admiral D. E. Barbey’s 7th Amphibious Force U.S.N. The Admiral was responsible for conducting all landing operations in the S.W. Pacific Area. This applied to Australian as well as United States troops. The procedures followed by the U.S. Navy gave responsibility to the naval commander for all aspects of an assault landing until the commander of the army forces had established his headquarters ashore. Once the operational command returned to the army, the naval concern remained only for the continued landing of reserves and supplies as planned and any re-supply which needed special landing craft. It will be clear that, in the event of strong opposition, the naval commander might have the early and critical stages of a serious land battle on his hands. It was one of my functions to guard against this as far as possible by advising my Admiral of any features of the army landing and assault plans where support might appear to be inadequate or success prejudiced in any way during the phase of naval responsibility for the land operation.

A landing at Tanamerah Bay was a vital part of a plan to capture the Hollandia area in which Japanese airfields and large supply depots had been providing support for their forces in the S.W.P.A. It was intended to turn these into a major U.S. Air Base for the onward support of General MacArthur’s drive to the Philippines. A subsidiary attack was to be made at the same time to take out the Japanese airfield at Aitape, 190 km east of Hollandia, in order to provide land-based fighter cover for the later stages of the Hollandia operation.

The 1st U.S. Corps plan proposed that the main effort should be made by 24th U.S. Division with a large proportion of the Corps engineers landing at Tanamerah Bay which appeared to be devoid of hostile defences. It was understood that a track existed from Depapre, the village at the head of the bay, up a wide valley to the Sentani Lakes and thence to Hollandia. The Japanese airfields were in the vicinity of the Sentani Lakes. 24th Division landing was intended as the decisive thrust of a pincer movement designed to capture the airfields. The other arm of this would be supplied by 41st U.S. Division landing in Humboldt Bay (Hollandia) where most of the enemy supply depots were located and the Japanese were expected to provide strong opposition.

Tanamerah Bay was 675 air km in advance of our forward positions around Madang in Papua New Guinea. It will be seen as a bold and courageous, even dramatic, concept of General MacArthur and his staff to seize the initiative and take a giant stride forward.

The shores of Tanamerah Bay, from air photographs, gave the impression of dense, trackless jungle almost to the water’s edge. At the head of the bay, near Depapre, there were some clearings but the water was thick with coral heads which would restrict movement to small craft and ruled out a night or dawn approach. The 24th Division plan was to put one battalion ashore here in daylight some hours after the main landing. In the absence of opposition it could act as an advanced guard and cover the main landing by moving
up the track towards Sentani. A splendid stretch of beach, capable of taking two regimental combat teams side-by-side, was selected for the main part of the division. The third regimental combat team was retained as a floating reserve. The beach seemed ideal from the air photos; it was coral free with deep water approaches. Corps intention was to construct a road from this beach through the jungle to join the Depapre-Sentani track at its closest point. This would involve some six or seven km of roadway. Although hills and mountains dominated the background, the area of the proposed track seemed part of the coastal plain.

Corps had arranged for a commando group (Australian) to be landed by submarine and it proved possible to take off a native inhabitant who gave satisfactory answers at Corps Headquarters concerning the absence of enemy and the suitability of the terrain and beaches. It is only possible to say here that nothing at all was heard from the commando group. Much later it became known, tragically, that several of the party lost their lives in an encounter with a Japanese patrol. The others were dispersed and hunted by the enemy until after the landing.

In our Amphibious Force Headquarters Ship, I was the only one with actual experience of the jungle amongst a team of naval officers. Although, at the outset, I could prove nothing, I had an uneasy feeling that there were too many imponderables in the I Corps plan. Too much hung on the word of one informant. Surely, somehow, it should be possible to cross check? The air photos showed a narrow strip of clean sandy beach backed by thick jungle without gaps or clearings. Neither verticals or obliques gave any hint of the ‘going’ behind the beach. What kind of trees were in the picture? All palm trees and definitely of the same type, they crowded close together and stretched beyond the photo’s edge without a break.

My thoughts went back to another New Guinea beach — at Gona sixteen months earlier where the Japanese had put up a prolonged
defence. On one of my visits to that area I had brought with me Brigadier Lucas, New Guinea Force Chief Engineer, and a small sapper detachment to find what jungle tracks, if any, linked Gona with Buna, which lay about 12 km to the east, and where hostile defences were giving us a lot of trouble. I went a little way with them but it was not my job and I experienced no pangs of conscience at leaving the reconnaissance to stouter hearts than mine. Lucas reported later of having spent six hours wading through chest-deep water and mud. The only trees were sago palms growing so thickly that their wicked spiky fronds interlaced almost to defy movement. At Gona these swamps stretched back several kilometres from the coast and there was not the slightest sign of any track. The sago palm, I was told, only grows in water in those parts.

Quickly I requested air photos of the coast east of Gona. When they were produced they, too, showed no sign of water behind the beach yet, in this case, we knew it was there. Nor was there any doubt that the palm trees in each set of photographs were of the one variety.

The end of the Tanamerah Bay story for me was one of utter frustration. I convinced several members of the naval staff; the Admiral, too, after careful study, agreed that the case appeared a solid one. By then I had added another question mark to the operation. This concerned the track which was supposed to link Depapre with the Sentani Lakes and Hollandia. When one reflected on the considerable rainfall and the drainage off the hinterland, it became increasingly probable that the area of the so-called track was a wide belt of water channels concealed from view by the ever-present jungle. Such a place, not dissimilar by any means, was the Musa valley above Wanigela in S.E. Papua. I remembered an Independent Company spending a whole week trying to battle through some 12 km of water and mud in the first New Guinea campaign. Here then was another major threat to the success of the operation.

Admiral Barbey baulked at telling the Army. He felt unable, he said, to trespass on purely army territory; it was not his business. But he was deeply concerned at the implications and offered no objection if I wished to speak directly to HQ I Corps. This I did.Shortly afterwards, General Eichelberger, commanding I Corps, spent a night aboard our HQ ship. He was an old friend from Buna days and I was able to bring out my evidence and remind him of the deep swamps we both had encountered from Cape Endiadere right through to Gona. I told him my belief that no one would be able to move inland from Red Beach Two because of the swamps which seemed certain to be there. “No amount of mechanical equipment will get you through,” I urged. “Half your force will play no part in the battle.” Although he accepted all I said, he told me that he felt bound to his staff. They had discussed my conclusions but were quite inflexible, I gathered. The staff were certain, their General said, that their information was correct. They expected no difficulty after the landing and he was unwilling to change the plan.

In the pre-dawn darkness of April 22nd, 1944, the leading destroyers of the Amphibious Task Force made their landfall and slid silently into the entrance of Tanamerah Bay. Behind them followed the rest of the navy’s fire support vessels, the rocket craft, troop transports and the huge L.S.T.s with their loads of supplies, guns and vehicles. It was a still, warm morning. Vivid gun-flashes lit the dark shores as the preliminary bombardment began. As daylight grew, the whole orchestrated assault unfolded. Fortunately, there was no answering fire. The infantry assault craft followed the rocket barrage on to the beach and the ponderous L.S.T.s lined up to commence discharging their loads.

I went ashore about 10 a.m. The beach was crowded. Across thirty metres of sand was the jungle where the sand gave way to dark, muddy water with sago palms growing densely as far as the eye could see. I climbed a small rise at the south end of the beach and met several of the Corps staff. Bulldozers were clearing away the jungle. I was told there was no way off the beach; they were going to work around the shore line. This looked a counsel of desperation.

In the end, one battalion was re-embarked and landed at Depapre in support of the unit already there. The rest of the infantry and Corps Troops found themselves stuck on the narrow beach for a fortnight until craft could be brought back to remove them. For the Japanese resistance had collapsed around Hol-
landia and General MacArthur, on the spot as was his custom, decided to take advantage of the enemy’s confusion and seize Wakde Island (200 km west of Hollandia) and Biak Island (480 km). The occupation of the Sentani airfields had disclosed that the soil was unable to support the U.S. heavy bombers. Riak contained enemy air strips with rock foundations. The last I heard of the battalion struggling forward from Depapre was that all supplies were being man-handled and they were calling for an air-drop! Admiral Barbey, in his excellent book, “MacArthur’s Amphibious Navy”, wrote of the Tanamerah Bay debacle, “Contrary to expectations ... the main beach was not only narrow but backed by an impassable swamp ... the path that was supposed to lead to Japanese airfields at Lake Sentani proved to be an almost impassable jungle trail”.

There are lessons to be learnt: chiefly that information from other than army sources is too unreliable for acceptance without solid confirmation. But the story is told more as an awful warning to planners and their commanders. One only has to imagine the situation should the Japanese defence of Hollandia have been a determined one.

Footnote:
Ten years earlier, in Melbourne, I had become privately involved in the establishment of a newsprint industry in Australia. It was to use pulp made from eucalypts; suitable quantities of the correct type were thought to be available in southern Tasmania. The pulp had been thoroughly tested in the United States and all that remained was to decide on the forest areas required and a site for the mill. Time was very short, the Commonwealth Government had promised a flying boat for the reconnaissance and I had suggested myself, an enthusiast in map reading and field sketching, as a member of the party.

The primary objective was to assess the extent of the variety Eucalyptus Regnans in the Florentine and adjoining valleys south of the Derwent River. I propounded the theory that any tree type was just as recognizable from the air as from the ground. A forestry expert would point out the types of tree as we flew over; my job would be to sketch-in the areas of the different varieties. Regrettably, it was never put to the test. Low cloud and steady rain prevented us from flying over those wild, heavily timbered valleys. All we could achieve was selection of the mill site which still operates at Boyer on the Derwent as recommended nearly fifty years ago.

When I stepped ashore on Red Beach in Tanamerah Bay my mind went back to the Florentine Valley. “At last”, I thought, “tree varieties CAN be recognized from the air.”

Major General Hopkins graduated from RMC Duntroon in 1917 and served in both Great Wars. He was closely identified with the development of an armoured training organization and the raising of 1st Aust Armd Div in 1941.

He was BGS New Guinea Force in the first New Guinea campaign. He commanded the Australian Component in the occupation of Japan. He was Founding Commandant of the Australian Staff College, DCGS and Commandant RMC Duntroon, before retirement in 1954. His history of the RAAC was published in 1978.

AWARD: ISSUE NO 37 (NOVEMBER — DECEMBER, 1982)

The Board of Management has awarded the prize of $30 for the best original article in the November — December issue (No 37) of the Defence Force Journal to Brigadier M. Austin (RL) for his article The Foundation of Australia’s Army Reserves: 1788-1854). This was a five part article dealing with the Australian Army Reserves from 1788 to 1854. Part one appeared in issue No 33 March — April, 1982.
THE EVOLUTION OF ISRAEL'S DEFENCE INDUSTRIES

By Dr. Ed. Duyker, Dept. of Defence

Ancient Roots

A RMS production in the land of Israel is not a new phenomenon. Some 35-40,000 years ago men with neanderthal features, inhabiting both the Galilee and Carmel caves, wrought crude tools and weapons from stone and wood. By the 8th and 7th millenia B.C., the neolithic tribes inhabiting the Jordan valley had achieved the technological innovation of the bow and the flaked flint tipped arrow. And by the 4th and 3rd millenia B.C. invaders from beyond the north-eastern borders of Syria had brought with them a wide range of weapon making techniques based on the smelting of copper. The Old Testament, also provides us with considerable knowledge of the arsenal of the Israelite period (1,200-586 B.C.).

Significantly, a number of the military symbols of the modern Israeli Defence Force are drawn from the weapons of the Jews prior to the Diaspora. In particular, a stylized representation of a heavy ribbed sword features on many insignia, together with the pervasive symbol of Israel, the "Magen David" or "Shield of David". The Diaspora, however, cannot be ignored, for Israel's nuclear physicists, electronic engineers and chemists are as much the heirs and formulators of Western technology as European Jews such as Bohr, Oppenheimer, Einstein, Hertz and Marconi were in their time.

Underground Industries

The re-birth of Jewish weapons production in Palestine is, as would be expected, inseparable from the modern Zionist movement. In 1909, an organization known as "Ha Shomer" (The Watchmen) was formed to guard Jewish settlements in Ottoman Palestine. Desperately short of arms and ammunition, Ha Shomer built a machine to load cartridges with gunpowder and thereby initiated the Zionist munitions industry.

During the First World War, thousands of Jews gained military experience in the armies of all the major powers — including that of the Turks. The British, in fact, allowed the creation of a force of 5,000 volunteers which became known as the Jewish Legion. With Allenby's capture of Palestine from the Turks and the British commitment (in the Balfour Declaration of 1917) to the establishment of a Jewish state, Ha Shomer was eventually disbanded and members of the Jewish Legion — particularly Dov Hoz and Eliahu Golomb — provided the nucleus for a new organization known as Haganah (Hebrew for "defence").

In the early 1920s Haganah continued the humble munitions tradition of Ha Shomer by constructing a secret sub-terranean armoury at Kfar Gileadi in which to store illicit arms and stocks of small home-made bombs made from tins filed with gelignite and nails.

The insecurity generated by the Arab riots of 1929 provided the impetus for a new
clandestine weapons fabrication drive.* This indigenous arms industry eventually became known as Ta'as and centred on an undercover operation in a Tel Aviv tannery, which was serviced by a number of small workshops referred to as "Institutes". One of the first Ta'as projects was the production of rifle-grenades; David Leibowitz (who later invented the Davidka short spigot heavy mortar) recounted these efforts of the early 1930s as follows:

"I was obsessed by the paucity of our arms and it seemed to me that we had to produce a grenade of our own, on the model of a Mills bomb. A carpenter in Mikveh Israel with whom I was friendly, and whom I trusted made me a wooden model. We cast it in metal, and then I took it to a Haganah commander in Tel Aviv for approval . . . He sent for a man called Israel Yashpesh who was making grenades in his own apartment. Together with him, I set about making rifle grenades copied from a Russian rifle grenade of which we found a description in a book. It was constructed from electrical conduits and water pipes . . . we managed to make one that was successful. In order to test it, we went out on the sand dunes, pretending to be hunters."

Ta'as went on to produce hand grenades and an improved 50mm rifle grenade based on an American design. By 1935 Ta'as had built a complete grenade factory in what was called "The Room" and despite the enormous difficulty of covert production and storage (with components transported by bicycle and donkey), was never discovered by the British! By 1936, however, Haganah had become a highly efficient para-military organization of some 25,000 men and women with the structure of a fledgling army. Not only had the Jewish Agency in Palestine appointed a General Staff, but also Heads of logistics, planning, training, education, operations and manpower. Concurrently, the nascent underground military industries were put on a completely new footing with full-time paid Haganah workers replacing a previously all-volunteer workforce.9

In the period following, Haganah's arms technicians achieved a number of remarkable innovations in the field of explosives. Men such as Haim Slavine used their kitchens to produce T.N.T. detonators and hand grenades. While Mishael Shacham (who helped set up Haganah's first primitive ammunition factory) helped develop, in 1938, a revolutionary new water-proof explosive.9

Haganah's reorganization would probably have taken place in due course, but was precipitated by the inevitable conflict between Jewish and Arab nationalism. Increased Jewish immigration as a result of the Anti-Semitism and oppression of Europe's fascist regimes, intensified the fears of Palestinian Arabs that they would soon become a disinherit minority in their own country, and thus fuelled the Arab uprising of 1936. Faced with insurgency, terrorism and riot by the Arab majority full of the bitterness of dispossession and unemployment, Haganah braced itself for the Arab onslaught. Nevertheless, despite British attempts to restrict Jewish immigration and land purchases, new fortified Jewish settlements continued to spring up.10

While relations between the Jews and the British had been strained from the very beginning of the mandate, the outbreak of war in 1939 galvanized the Jewish community in Palestine in its support for the British and in the common struggle against Nazism. As a temporary alliance, however, it was to have profound implications for the technological and infrastructural base of Modern Israel's defense industries.

In 1940 the Jewish Agency commenced a major mobilization of Jewish resources in both wartime agricultural and industrial activity. Not only was cropped land expanded by some 70% but about four hundred new factories, essentially catering to British military requirements, were constructed in the 1940-41 period. By 1945, this number had tripled, while production in two thousand existing Jewish factories (at the commencement of hostilities) also substantially expanded. According to Howard M. Sachar:

"Among the equipment produced were antitank mines, weapons' components, tank

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*"In those days, as the Jewish community in Palestine was clandestinely arming itself, the moral and democratic use of weapons became a central issue. Known as 'har haneshek' (purity of weapons), it implied that weapons should be used only for self-defense against the Arabs and the British. According to the Israeli scholar and left-wing politician Meir Pa'il, this concern over moral use of arms persisted even after the Six Day War. Also implicit, however, was a concern over a corrupt use of weapons by Jews against other Jews." See: Gonen, J. Y., A Psychohistory of Zionism, New York, 1975, pp57-58.
engines and treads, light naval craft, machine tools, and uniforms. Guns, ships and machinery were repaired; specialized scientific apparatus, optical instruments, medical supplies and vaccines and pharmaceuticals were manufactured. By 1943, 63 percent of the total Jewish work force was employed in occupations immediately connected with defense needs."

This wider wartime manufacturing spectrum also laid the basis for many other post-war Israeli industries.

Despite the wholehearted collaboration of the Palestinian Jews in the British war effort (with the later exception of Menachem Begin’s "Irgun"), covert arms production continued in the shadow of overt and legal weapons fabrication. Until the middle of World War II, Haganah had only a small number of Italian, German and American automatic weapons which had largely been acquired from the battlefields of the Western Desert. While the production of such automatic weapons required relatively sophisticated machine tools and metallurgical resources, Ta’as made the ambitious decision to attempt the manufacture of replicas of British Sten Guns. As a first step, Rekhesh (the underground weapons procurement branch of Haganah) had sent four Stens from Egypt to Tel Aviv which were then dismantled and used as the basis for the manufacture of a number of prototypes. In order to mass-produce these Sten copies, Ta’as had to obtain sufficient quantities of high-grade steel with adequate tolerances for submachine gun barrels. Amazingly, these requirements were largely met by scavenging a wide variety of rusting 19th Century muskets and rifles (including Napoleonic pieces) and removing their barrels for cutting and reboring to Ta’as 9mm specifications.

By the end of the war, the expanded covert activities of Ta’as also included the manufac-

*The "Irgun Zvai Leumi" (Hebrew for National Military Organization) was a right wing Jewish terrorist group.
ture of a number of types of grenades and mortar shells. Eventually Ta'as also began to manufacture 2 and 3 inch “Ozek” mortars which the British (on uncovering some) refused to believe were of indigenous origins. In 1945, Ta'as also established a one thousand square foot bullet factory over twenty feet beneath the laundry of Kibbutz Maagan Michael. According to Yigal Allon, elaborate security precautions at this factory even reached the extent of declaring the Kibbutz an area of foot and mouth infestation; establishing a special shoe repair shop to remove metal filings from the shoes of Ta’as workers and also providing these workers with ultra-violet and vitamin treatment to disguise their suspicious “subterranean” pallor. In addition, the massive consumption of electricity by the plant was concealed by wiring its power supply through the Kibbutz bakery. The bakery chimney also doubled as the factory’s air vent. Allon described the workers of Ta’as as:

“... a startlingly small group; drawn from all walks of life in Palestine; some were members of Kibbutzim, others garage mechanics; there were young mothers, building contractors and one or two professional scientists among them... They worked under harsh physical conditions, subject always to the fear of sudden alarms, of raids and the need to gather up their blueprints and tools... They lived, and worked, in an atmosphere of such hermetic secrecy and caution that, in all the years of this existence, only one or two Ta’as workshops were discovered, and only a handful of Ta’as workers were injured or killed, despite the daily risk.”

Concurrently, Haganah and Rekesh continued their clandestine arms acquisitions in various parts of the world. Though they provided the Ta’as technicians with examples to copy, they also stimulated the need for assembly facilities since many weapons arrived in a dismantled state. However, the most important smuggling operation of this period — which resulted in a marked increase in indigenous weapons manufacture — was undertaken by
Haganah’s veteran explosives specialist Haim Slavine.

In mid-1945, Slavine had chanced upon a short newspaper article on the planned scrapping of seven hundred thousand practically new machine tools from the U.S. arms industry. Slavine immediately contacted David Ben Gurion and convinced him of the need to purchase and smuggle these machine tools into Palestine. Relying on a number of technical journals, Slavine, a man of copious engineering and scientific acumen, made an intensive study of the pre-requisites for armaments manufacture on his arrival in New York. Then with the aid of Rudolf G. Sonneborn, a wealthy Jewish industrialist, Slavine passing himself off as a deaf and dumb scrap-metal dealer, toured the major industrial centres of the United States purchasing drills, lathes, grinders and borer. Slavine’s acquisitions at 19 cents a pound even included highly sophisticated munitions fabricating equipment which, under U.S. law, had already been dismantled. With a team of trusted confederates, he even searched junk-yards for missing components. All these pieces of equipment were then transported back to New York and stored in a disused dairy plant. According to Larry Collins and Dominique Lapierre:

“By the time this prodigious purchasing mission was finished, Slavine has acquired the machinery to mount a daily production of fifty thousand rifle or machine gun bullets, the machine tools needed to perform the 1,500 operations necessary for assembly-line production of a machine gun and equipment to manufacture 81-millimeter mortar shells. Bought by weight at its value as scrap metal, that mass of machinery had cost Slavine $2 million. In terms of what such machinery had cost new only months before, its value was over $70 million.”

Such a massive quantity of machinery, which could not be legally exported from the U.S. or imported into Palestine, presented Slavine with a major problem. In order to despatch this valuable industrial contraband, under the noses of both the British and the Americans, Slavine had to adopt methods which went beyond those of piecemeal gun-running. With both patience and brilliance, he set about stripping every single unit town to its most basic component. The resulting 75,000 machinery parts were then systematically numbered and catalogued according to a unique assembly code. Weighing some 35 tons, the myriad pieces were then randomly mixed and crated for legal shipment to a fictitious Arab textile manufacturer in Palestine.

By late 1947, this innocent industrial jig-saw puzzle had arrived safely in Palestine without raising any real suspicion. However, the risks involved in assembling and actually operating this equipment under the threat of British confiscation, were ultimately deemed too great. Despite its desperate need for this equipment, Ta’a’s postponed assembly until the end of the mandate.

By the end of the Second World War, further technical skills were also being infused into the underground Ta’a industries by men who had served in the British army. With a detailed knowledge of the workings and use of modern weaponry, such men (although often unqualified as engineers or skilled tradesmen) were able to provide much needed practical understanding of field requirements and advise on possible modes of innovation. Nevertheless, crude and improvised weapons manufacturing continued until well after the end of the British mandate. For example, two old Turkish cannons which had rested on the lawns of Jerusalem’s Menorah Club for some thirty years were expropriated by Haganah, stripped down and cut into sections. These sections were then reworked into a number of short spigot heavy mortars known as “Davidkas”. The Davidka fired primitive shells constructed from water pipes filled with explosives and sundry pieces of scrap metal; it became more famous for its terrifying noise, rather than its woeful inaccuracy. Until the winter of 1948, however, it remained the only heavy artillery in the Jewish arsenal.

On the night of November 29, 1947, the United Nations passed a resolution to partition Palestine into a Jewish and an Arab state — while internationalizing Jerusalem. Although this resolution precipitated a state of virtual civil war between the Jewish forces and Palestinian irregulars, the end of the mandate and the withdrawal of British forces from Palestine on May 14, 1948 heralded the Arab invasion and the bitter fighting of the Israeli War of Independence.

Shortly after Israel’s declaration of independence, a Defence Order was promulgated which authorized conscription and formally
instituted “Zahal” (the Hebrew acronym for Zva Haganah Le’Israel or Israel Defence Force), incorporating Haganah, the Palmach* and eventually — despite violent recalcitrance — the Irgun Zva Leumi. With the creation of the Israeli army, Yosef Avidar, a “director” of Ta’as, became Israel’s first Ordnance Corps Commander.

Freed from the strictures of British bans on weapons manufacture and import, Avidar’s Ordnance Corps began rapidly escalating both production and overseas acquisitions of essential military supplies. Nevertheless, many nations continued to maintain embargos on the export of arms to the new Jewish state. Thus subterfuge and secrecy prevailed in the context of most of the major arms deals negotiated. The daring nature of these clandestine Jewish acquisitions is exemplified by the amusing manner in which several Beaufighter bombers were acquired for the embryonic Israeli air force. A number of these planes were first obtained in Britain under the pretext of making a film about the courage of New Zealand pilots during World War II. The film, however, was not to be. As Dan Kurzman has recounted it:

“One scene in the film called for a mass take-off of Beaufighters. The cameras rolled away as the actors played impeccably. The film might have been a good one — had the Beaufighters returned . . .”

Meanwhile, in the United States, Al Schwimer, a TWA flight engineer who eventually headed Israel Aircraft Industries (IAI), was busy buying four B17 Flying Fortresses and four A-20 medium bombers which eventually arrived in Palestine full of Czech rifles and machine guns. (The Czechs also sold Israel a number of World War II Messerschmitt and Spitfire fighters). 

Ta’as nevertheless, had to continue its largely improvised production process. By July 1948, for example, it had produced some three million 9mm cartridges from millions of lipstick tubes legally imported from an English cosmetics firm! This form of ingenious improvisation continued under Yosef Avidar’s command with the construction of dozens of armoured cars by covering trucks with 2 layers of 4mm thick steel “sandwiching” 50mm of wood or concrete. The rusting hulks of many of these home-made armoured vehicles, which were destroyed in the fighting of 1948, can still be seen along the Tel Aviv — Jerusalem road today.

Elsewhere, skilled scientists, such as Joel Racah and Aaron Kachalski, abandoned relatively esoteric studies to produce more effective explosives — for mortars, detonators and grenades — from available materials. (50,000 such improvised grenades were assembled in the crating room of a Haifa orange grove alone.) By the time of the first cease-fire of the war of 1948, the more sophisticated machine tools smuggled into Palestine by Haim Slavine were being fully employed and producing nine hundred mortar shells and six thousand bullets a day. 

The cease-fire though, did not last for long but it gave the Israeli forces much needed time to reorganize and re-equip. By the time the fighting had ended, the Jews (who had already captured Haifa, Jaffa, Ramle and Lydda and expelled much of their Arab populations) had taken Beersheba and the Negev, while in the north they gained control of the Galilee. In the central theatre, however, they failed to capture Latrun but, by secretly constructing a six mile long road through the Judean hills were able to relieve the beleagured Jewish inhabitants of West Jerusalem, though not those of the old city.

Early Post-Independence Developments

Though the Israeli army, and its extremist para-military cousins, had beaten back the invading Arab armies and put much of the indigenous Palestinian population to flight, it had not won a permanent peace. In this atmosphere of insecurity, the new state of Israel — which now controlled territory considerably larger than that envisaged by the U.N. partition plan — sought to lay the foundations for a modern military machine with a developed industrial infrastructure.

The most basic investment Israel required, however, was people. Not only was the “in-gathering” of the Jewish people one of the most important cornerstones of the Zionist creed, but expediency necessitated a rapid expansion of the nation’s military and indus-

*The “Palmach” (from the Hebrew “Plugot Mahatz” or “striking companies”) was an elite independent arm of Haganah founded by Yitzhak Sadeh.
trial manpower if it was to remain a viable entity. In the first three years of its existence, Israel doubled its Jewish population by emptying Europe’s refugee camps and initiating the intake of the world’s oriental Jews.

The shock of such a huge deluge of people, which continued well into the 1950s, made the absorption of immigrants a major priority. Nevertheless, the Israeli economy expanded rapidly along the strongly social-democratic lines that had characterized Jewish settlement from the 19th Century onwards. As early as 1954, the Histadrut (General Federation of Jewish Workers) had become the nation’s largest single employer. From its foundation in December 1920, it played a crucial role in indigenous weapons production and eventually in the establishment of Ta’as. This capacity for substantial government and trade union investment in what might otherwise have been unprofitable ventures for the private sector, provided a major stimulus for the manufacturer of many of Israel’s military requirements. The establishment of the Bedek Aircraft Company in 1953 — it changed its name to Israel Aircraft Industries (IAI) in 1967 — is a good case in point. Similarly, Ta’as, which became better known internationally as Israel Military Industries (IMI), is another good example. Having expanded its operations, Ta’as was now manufacturing, under licence, a recoiless 106mm gun, a 30mm aircraft cannon and a variety of different bullets, artillery rounds and rockets. In addition,

“Local engineers and technicians were sent on courses overseas and visited arms plants, and on their return introduced new systems and modern machinery. Under the extraordinary leadership of a small and devoted management group, the arms industry reached a stage where the Israeli Army, uncompromising as ever in its insistence on quality, was as pleased with its product as it had been with imported weapons and ammunition.”

It was during the early 1950s, for instance, that the 9mm “Uzi” submachine gun (probably the most recognizable symbol of Israeli arms technology) emerged from the Ta’as assembly line. During the 1948 war, Israel, with its small-arms “hotch potch” had realized the need for a standard and durable submachine gun for its troops. Though design work by Major Uzi Gal began in 1949, the first Uzi did not appear until 1952. Owing much to a number of pre-war Czech designs (Czechoslovakia was Israel’s chief supplier in 1948) the Uzi’s compact and robust design features a pistol-grip doubling as a magazine housing which facilitates both balance and night-reloading. With its effective range of 200 metres and its 650 rounds/min. cyclic rate of fire it has also been an enormously successful export; 750,000 Uzis have since been sold to 40 different countries.

**Aircraft and Missiles**

It was also in the early 1950s that Israel began to develop its ties with France and embark upon a radical, parallel military investment strategy. When Nasser blockaded the Straits of Tiran in 1956, Israel agreed to invade Sinai as part of a joint Anglo-French-Israeli military action against Egypt (which had also nationalized the Suez canal). While the Anglo-French invasion of Suez became a debacle and Israel was ultimately pressured by the U.S. into withdrawing from the Sinai, Franco-Israeli relations remained close. This was due, in considerable part, to the efforts of Shimon Peres, who as Director General of the Ministry of Defence, had already been deeply involved in expanding local weapons production under his ministry’s aegis.

After the French air force itself, Israel became the depressed French aviation industry’s most important single customer. Under Peres’ directorship, Israel began to provide a major technical input into the French design process. By 1957 in fact, Israel gained the right to produce the French Fouga Magister jet trainer under licence (the first of which rolled off the assembly line in July 1960).* The Fouga Magister deal proved to be a watershed in the development of the Israeli aircraft industry. From this period onwards, it continued to expand in size and expertise, ultimately achieving the ability to design and build its own aircraft. Franco-Israeli military reciprocity continued, however, when Israel was allowed to invest in a number of Dassault’s special research projects. It would not be an exager-

*Between 50 and 60 of these Fouga Magisters were used during the Six Day War for ground attack purposes after being equipped with 68/80mm rockets. Despite their limitations, they proved themselves effective tank-killers with only six being shot down by enemy fire.
the ground was due not merely to surprise but in pari devised and perfected for the specific purpose of destroying at least to an ingenious bomb which the Israelis have

Golan Heights after Jordan and Syria had air force on the ground* and then capturing general war. Israel, however, pre-empted "The almost total destruction of the Egyptian Air Force and details of how it was to be constructed. For one of these elaborate machines alone there were over 45,000 blueprints". 29

Although Frauenknecht received a sentence of four and half years jail for what the Swiss judge described as the worst case of espionage in Switzerland since World War II, he remained insistent that his actions had been undertaken "on moral grounds of conscience" and that as a devout Christian he was "haunted by the memory of Dachau and Auschwitz".

While Israel never officially recognized Frauenknecht's actions, she most certainly benefitted from them! In September 1969, Israel Aircraft Industries test flew its "Nesher" (Hebrew for "eagle") fighter which had an

* According to Randolph S. and Winston S. Churchill: "The almost total destruction of the Egyptian Air Force on the ground was due not merely to surprise but in part at least to an ingenius bomb which the Israelis have devised and perfected for the specific purpose of destroying runways. As soon as the bomb leaves the aircraft a retrorocket is fired to stop its forward impetus. Then a booster rocket drives it into the runway. Once it has penetrated the concrete a time fuse explodes it. The fuse may be set on a variable time-delay. Normally runways are considered relatively easy to repair, but it is rather more difficult when the runway keeps exploding", see: The Six Day War, London, 1967, p82.
obvious Mirage derived airframe powered by an Atar turbojet engine and Israeli avionics. 26 of these unlicensed Mirage copies were later sold to Argentina under the alternative name of "Dagger" fighter/ground attack aircraft for a reported $185 million. Further developments with a modified Nesher airframe and a General Electric J-79 after-burning turbojet engine, together with totally replanned weapons systems and avionics, led to the production of the IAI "Barak" (Hebrew for "lightning") and then the IAI "Kfir" (Hebrew for "lion cub"). Though publicly test flown in April 1975, a production version, the Kfir-C2, was unveiled in July 1976. By mid-1979, IAI had manufactured some 150 Kfirs and Kfir-C2s.

In attempting to offset production costs through exports, however, Israel ran into difficulties because the use of a General Electric engine enabled the United States to veto prospective sales. In late 1976, for example, the sale of twenty-four C2s to the Ecuadorean Air Force was vetoed by the Carter administration. Ultimately, under Reagan, the U.S. relented and also gave permission to Israel to export 50 Kfir-C2s to Taiwan. With Bolivia, Columbia, Venezuela, Honduras and Mexico now seriously considering purchases and a new two seater C2 in production, Israel appears to be on the threshold of an important new market.

IAI has also offset the enormous production costs of another two of its products - the Arava STOL twin turboprop light military transport, and the turbofan maritime reconnaissance Sea Scan — by exporting them for both civilian and military purposes. While the Arava is in service with the Israeli, Bolivian, Ecuadorian, Guatemalan, Honduran, Mexican, Nicaraguan and Salvadorian air forces, six civil transport versions have been sold to Argentina, and an American company (Airspur Inc.) is preparing to launch an air cargo service with ten 101B Aravas. The Arava has also reportedly been sold to Swaziland.

While the Israeli Navy's IAI 1124N Sea Scans have proved themselves an effective coastal patrol and tactical support aircraft, with a surveillance range of 4,663 km, they were initially, and still are, being sold as the 1124 "Westwind" executive jet - without the Sea Scans sophisticated avionics. A new fuel efficient version of the Westwind is now being marketed as the IAI 1125 "Astra" which is characterized by swept back aerofoil wing sections mounted much lower on the fuselage.

From its humble origins as a repair and overhaul business in 1953, IAI, based in Lydda, has grown into Israel's biggest single enterprise employing more than 22,000 people. Of particular significance, is IAI's Electronics division (incorporating former subsidiaries such as Elta, MTB, Taman and MLM) which not only produces much of the sophisticated avionics for the Kfir, Sea Scan/Westwind and Arava, but is also responsible for the design and manufacture of the world famous "Gabriel" shipborne anti-ship missile.

The destruction, in 1969, of the Israeli destroyer "Elat" by Soviet "Styx" missiles supplied to the Egyptian navy, served to reaffirm Israel's desperate need to hasten development of an anti-ship missile of her own. The Gabriel was first introduced into the Israeli navy in 1970, and although it has a shorter range than the Soviet Styx, relies on the coordinated use of electronic countermeasures (ECM) which jam the Styx on its ballistic curve. In contrast, the active radar homing and sea skimming Gabriel relies on its proximity to the crests of the sea's waves in order to confuse Soviet designed countermeasures. The Gabriel proved itself to the world by sinking a combination of nine Syrian and Egyptian ships in four separate engagements during the 1973 Yom Kippur war. As a result, the Gabriel has been sold to Singapore, Taiwan, Thailand, Argentina, Malaysia and South Africa.

Another Israeli missile, the infra-red seeking, air-to-air "Shafrir" (Hebrew for "dragonfly"), is manufactured by Rafael (Israel's Armaments Development Authority). Although Rafael does not normally undertake the production of weaponry and concerns itself primarily with research, the Shafrir is an exception. Nevertheless, components are supplied by some 40 different companies. Like the Gabriel, the Shafrir proved itself during the Yom Kippur war in the destruction of over 100 Syrian and Egyptian aircraft. In the highly competitive air-to-air missile field, the Shafrir (which arms Israeli Mirages and Kfirs)
has been sold to Taiwan and Chile. The U.S., however, has been critical of such exports because it regards the Shafrir as a re-built version of the "Sidewinder" and thus as U.S. technology which should be subjected to U.S. export restrictions.  

Characteristically, Israel's aircraft and missile industries continue to look to the future, and the development of the "Lavie" (Hebrew for "lion") fighter to replace the Kfir-C2 by 1990 epitomizes this forward thinking. As presently envisaged, the Lavie will be a comparable aircraft to the downgraded F-16 and F-5G and will be produced as a joint project with an American company — probably McDonnell Douglas. It has already been decided that the Lavie will be powered by the Pratt & Whitney PW 1120 turbofan engine which will be built under licence by Beit Shemesh Engines. In addition, the avionics and weapons systems will be produced by a number of specialized Israeli electronics firms. The anticipated cost of each Lavie will be about $9 million (in 1982 dollars) together with a non-recurring development cost of $2 to $4 million per unit. At 60% of the price of its expected competitors the Lavie will thus be extremely well priced for the export market. More importantly it will provide Israel with an assured source of frontline fighters and profoundly influence her domestic economy and technological capability for several decades to come.  

Electronics  

No discussion of Israel's defence industries, and in particular Israel's military electronics capability, would be complete without mention of Tadiran (part owned by the Histadrut) which specialises in communications equipment and increasingly in the manufacture of computerized C^3 systems. According to Felix Muller:  

"Applying the latest technology to contemporary military problems, Tadiran has developed many diversified systems for each of the military services. Research and development are given first priority. A series of secure communications instruments for radio and telephone channels has been developed that employ advanced digital signal processing techniques. Electronic warfare systems, COMINT and ELINT, have been developed and supplied both in Israel and abroad."  

By 1981, Tadiran had become Israel's largest electronics manufacturer with $340 million worth of sales, of which $140 million were in world wide exports. Intimately linked with Tadiran and IAI are a number of other specialized electronics companies that sprung up in the wake of a major drive by the Israeli Defence Force to exploit electronic warfare technology from the mid-1960s onwards. Elbit, for example, was established as Israel's first digital computer company when the Ministry of Defence teamed up with a Haifa electronics firm called Elron. Emphasizing the transfer of technology from Haifa's Technion University, Elbit began to develop a host of highly effective military computers which were in turn, integrated into the weapons systems, avionics and communications systems of the three services of the Israel Defence Force (IDF).  

Similarly, AEL Israel is a company producing electronic intelligence systems, radar warning devices and jammers which are also used in the Israeli army, navy and air force. Israel Electro-Optical Industry is another such company which warrants mention. Having its real origins in the Jewish industrial war effort of World War II, it is a military optics firm which produces head-up displays, gunsight cameras, laser rangefinders and night vision devices with widespread applications for the domestic and foreign military market. Perhaps the most salient features of these Israeli defence industries is that they have their foundations in a combination of substantial government investment, foreign capital and private initiative, supplemented by indigenous military and scientific expertise.  

Ship Building  

There is, of course, much more to Israel's dynamic defence industries than aeronautics and specialized electronics. Not only does Israel manufacture Gabriel ship-borne anti-ship missiles, she also builds the ships upon which many of them are mounted. As early as 1962, Israel had been aware of Egypt's plans to acquire small but speedy Soviet Komar and Osa class missile boats which could pose a serious threat to the Israeli navy, to Israeli commercial shipping (the Zim line, for example, is one of the largest in the world) and to Israel's heavily populated coastal cities. Although Israel first met this threat by acquir-
Israel-made patrol craft ply the waters of the Mediterranean and the Red Sea.

ing three “Jaguar” missile boats from West Germany, she turned next to the French to build 12 new “Saar” class fast attack missile craft. The last five of these, though, were impounded by the French government in accordance with de Gaulle’s embargo.

Israel responded by coolly spiriting all five of the remaining ships (for which she had already paid) out of Cherbourg harbour under the noses of the French authorities. While this daring operation amazed the world, so too did the subsequent success of Israel’s shipyards. Just as General de Gaulle’s embargo catapulted Israel into the design and construction of advanced fighters, it also stimulated a major ship building effort by Israel Shipyards Ltd. of Haifa which had previously built six LCTs for the Israeli navy.*

The first of these new naval craft were the “Reshef” (Hebrew for “spark”) class, which were developed from the earlier French built Saar class. The Reshef, however, are 13 metres longer and have almost twice the displacement of the Saars. Though somewhat slower, the Reshefs carry heavier armament and heavy greater endurance; during the Yom Kippur war, as the platform for the Gabriel, the Reshefs acquitted themselves brilliantly. Their highly successful design has led to four Reshef sales to South Africa and two to Chile — with another two pending. It should be noted however, that such sales are as much due to the Reshef’s impressive performance as to the extremely limited sources of fighting ships that reactionary governments such as Santiago and Pretoria have.

Israel Shipyards is now designing a new multi-purpose missile armed corvette of about 1000 tonnes, which will have a far greater range and fire power than the combat proven Reshef. This new design, with its specific emphasis on even greater range and endurance, appears to be inspired by the need to counter the rapidly expanding Libyan navy to Israel’s west. It would also seem to be directed at the highly lucrative export market for a ship costing 40% of the price of a new destroyer yet endowed with many of its attributes. Nevertheless, Israel has continued to develop a smaller “Dvora” (Hebrew for “bee”) class fast attack missile boat from IAI’s ongoing “Dabur” (Hebrew for “wasp”) class patrol craft programme. In addition, until her larger new corvettes are launched (from the mid-

*In late May of 1967, one of these LCTs (which was due for completion in August of that year) was “completed” in an amazing five days and saw action in the Six Day War with only two of its three engines and a make-shift rudder!
eighties onwards), Israel will continue to build another two "Aliya" (Hebrew for "ascending") class helicopter-carrying corvettes of about 480 tonnes, armed with Gabriel. The Aliyas presently fulfil an important command and control function in the Israeli Navy.

**Land Armaments**

Like its air force and navy, Israel's army has also been admirably served by the nation's defence industries. The pre-independence tradition of local mortar manufacture has been continued to the present day by the Haifa based Soltam company with its range of 60 and 81mm Finnish "Tampella" derived mortars and its heavier 120 and 160mm models; along with Soltam's long range M-71 155mm gun-howitzer. Each of these mortars can be mounted on a wide variety of military vehicles. This extensive inventory is further complemented by the Ta'as 52mm conventional, smooth bore mortar, the "Pickett" 81mm anti-tank weapon, and an impressive array of mortar and artillery shells, grenades and mines.

It is worth mentioning that the Ta'as 105mm armour piercing round is now used in 17 different countries and by 1981 had generated some $300 million in sales.

Perhaps because the rifle has for so long been a universal icon for the infantryman, and because the Middle East has become something of a combat "laboratory" no other Ta'as infantry weapon, with the exception of the Uzi, has provoked as much comment as the Galil assault rifle.

The Galil is very much a continuation of the basic design principles which brought the modern assault rifle into being in the first place: the requirement for a lightweight, medium range weapon capable of both semi-automatic and fully automatic fire. After the Six Day War of 1967, the Israeli army had decided that even the standard FN "Fal" was too powerful and too heavy for its infantry. It was thus decided to develop a robust, reliable weapon suited to the Middle East, which could also fire the U.S. 5.56mm round.

After conducting trials on a number of different prototypes, the Israeli army adopted the 5.56mm Galil assault rifle designed by Israel Galil and Yacov Lior, which could fulfil the role of a semi-automatic rifle, submachine gun and light machine gun together with projecting anti-tank and anti-personnel grenades. Of eclectic origins, the Galil owes much to the Finnish Valmet M62, which is itself derived from the Soviet Kalashnikov AK47, and has the same rotating bolt locking system as both these weapons.

Though the Galil assault rifle being integrated into the Israeli army is chambered for the lightweight, but still lethal, 5.56mm round, Ta'as has also begun producing a 7.62mm version primarily for the export market. Nevertheless, the standard 5.56mm model has been sold to a number of countries and is also under consideration by a number of others; Papua New Guinea, for example, which already purchases Israeli ammunition, regards the Israeli Galil as a serious contender to replace its ageing stock of SLRs.

Of much greater significance to Israel, in her attempts to maintain her armoured prowess, has been the co-operation of Ta'as with the army's Ordnance Corps in the "up-gunning" of about 200 ageing Sherman tanks with a medium velocity French gun, and the similar "up-gunning" of 450 Patton M48s with the British Vickers 105mm gun (produced under licence). Together with Israel's Centurions (already mounted with the 105mm Vickers gun), both these types of tank have been refurbished with American diesel engines. In addition, over 100 captured Egyptian T54, T55 and T62 (as well as a number of Jordanian M47) battle tanks have also been re-engined and up-gunned. Even the Patton M60 is said to have required well over 100 different modifications before it was deemed acceptable for Israeli conditions.

The Ta'as/Army Ordnance corps has also been particularly successful in the innovative use of re-built Sherman chasis as self-propelled mounts for Soltam's 160mm heavy mortar, 155mm French howitzers and Israel's new 290mm artillery rockets. As well, 90mm anti-tank guns have been mounted on re-built M3 half-track carriers to provide the IDF with yet another form of self-propelled artillery.

It would seem worth mentioning that a number of other military vehicles are also produced in Israel. Aside from the Ta'as Dodge powered "RBY" reconnaissance vehicle, the Nimda "Shoet" armoured combat vehicle and the Ramata "RAM V-I" light armoured vehicle, the ubiquitous (Chrysler powered) "M-325" is probably the most successful workhorse in the Israeli army.
Israels Merkava Tank is especially adapted for desert warfare.

Origins of the Merkava

Just as France’s embargo on the sale of further ‘‘Mirage’’ fighters and ‘‘Saar’’ missile boats spurred Israel to develop the ‘‘Kfir’’ and the ‘‘Reshef’’; so too Britain’s refusal to sanction the sale of Chieftan tanks to Israel catalysed the development of the ‘‘Merkava’’ (Hebrew for ‘‘chariot’’) Main Battle Tank (MBT).

Although the decision was a costly one — $65 million in the development and $135 million in establishing a plant — Israel felt compelled to supply its armoured corps with tanks which would match and perhaps surpass the sophisticated Western and Soviet tanks which would inevitably be acquired by its hostile Arab neighbours. In the decade it has taken for the Merkava to actually begin service in the Israeli army, Israel has also had to accept an interim compromise of additional M48s and M60s. Ultimately, the overall number of tanks which Israel would require and the possibility of exports, made the development of such an MBT as economically viable as similar projects in nations such as Britain, France and Sweden. This is not to suggest that “economies of scale” enabled Israel to produce a completely home-grown product. In fact, approximately 43% of the total value of the Merkava is directly or indirectly foreign in origin — especially its armour plating, engine and transmission. Nevertheless, 40 major Israeli firms and the Army’s Ordnance Corps employ 4000 workers directly involved in its production.

It would be no exaggeration to suggest that the driving force behind the Merkava has been Maj. Gen. Israel Tal who commanded the IDF’s Armoured Corps between 1964 and 1968 and forged it into the remarkable war-machine which routed the Arabs in 1967. To a large degree the design of the Merkava has also been inspired by Tal’s maxim that: “The most important thing in action is to survive”. As Wolfgang Flume has pointed out:

“The Merkava development team utilized the experiences gathered during the wars of 1948, 1956 and 1967. All available data, i.e., hit patterns, hit impacts, etc. on their own and enemy tanks were compiled and evaluated under criteria of different armour protection and different types of ammunition. Based on war experiences, the general tank philosophy, according to which the MBT is a compromise between the three parameters fire power, protection and mobility, is no longer accepted. Protection is considered the “basic factor of tanks”, i.e. protection of the weapon systems and protection of components and equipment. The individual therefore stands in the spotlight of all considerations — as being irreplace-
able... Survivability, the decisive factor in action... improves mobility and fire power, not vice versa. A battle tank which survives because of its protection, automatically has better mobility on the battle field because it can move faster from A to B even under enemy fire. With superior protection the enemy can be approached much closer and thus hit probability and the chances of piercing enemy armour are increased considerably.

Thus, the Merkava is designed to offer considerable ballistic protection. Like the Swedish "S-tank", it has its engine located in the front and its ammunition stored in the rear, while its wedge shaped turret presents a greatly reduced target profile.

Designed for relatively simple maintenance by reservists, it is crewed by four men; the Israelis have rejected automatic loading and argue that four men are essential for the maintenance and operation of modern tanks under the variety of conditions that can be expected on the battlefield. The loader, for example, is trained to take over from the gunner or the driver if necessary.

The Merkava is presumed to have a greater ammunition capacity than any other MBT in existence. However, when carrying a reduced ammunition load it can carry eight seated soldiers or four wounded on stretchers. This "APC" capability is further facilitated by a rear exit which offers protection from enemy fire. Weighing 56 tonnes and powered by a 900hp engine, the Merkava is slower than a number of comparable tanks, but despite its heavier armour and weightier magazine, it has a comparable range of 500km with minimum crew fatigue.

Armed with the 105mm M68 gun and sophisticated Israeli optics, Laser rangefinders, computerized fire control and communications equipment, the Merkava is a formidable weapon destined for a long career. The Mark II will have a greatly improved gear-box and armour, while the Mark III — as presently envisaged — will have an indigenous engine of some 1,200 to 1,500hp and a 120mm gun.

RESEARCH & DEVELOPMENT

In the foregoing analysis I have attempted to provide a cursory view of the types of weaponry which have been developed or improvised by the Jews of Palestine and, later, Israel. Space and paucity of information have unfortunately mitigated against any detailed mention of weapons such as the Luz air-to-surface missile, the Python air-to-air missile, the Jericho two-stage ballistic missile, a number of Remotely Piloted Vehicles* and Israel's nuclear capability. This rapid sophistication, from the crude cartridges of Ha Shomer to the highly complex Kfir fighters and Merkava tanks of the IDF, is indeed a remarkable achievement — especially for a nation which has only just attained a population of four million! With much of the world market closed to her, it is even more extraordinary that industrial products account for much of Israel's total exports. Significantly, this has been accomplished by achieving technological superiority in a number of highly competitive fields (of which armaments is only one).

Such an emphasis on highly skilled industries would have been impossible without extensively developed technical training and educational facilities. At present Israel has the second highest proportion of scientists and engineers per head of population in the world; her four universities currently turn out 1,800 engineers and 3,000 highly proficient technicians per annum. Despite the loss of some of her best minds to foreign lands, Israel currently gains approximately 2,500 similarly skilled immigrants each year.

U.S. AID

My intention, however, has not been to provide an unqualified litany of praise for Zionist achievements in the armaments field; a more sober view is gained when one considers the extent to which the Israeli economy and military are subsidized by the United States. In order to understand how this occurs one must examine some of the more salient features of Israeli defence expenditure.

*From 'Israeli reports it seems that the Merkava performed remarkably well in combat during Israel's invasion of southern Lebanon. According to Defence Minister Ariel Sharon, the Merkava destroyed nine Syrian T-72s during engagements on June 10, 1982, see: The Age, June 14, 1982, p5. 

Procurements on the basis of long term planning are budgeted according to three fiscal categories. The first is local Israeli currency or “Shekels” which can only be spent within Israel. The second is untied foreign currency freely earned through Israeli exports (which is used to purchase equipment and spares in Europe and the United States). The third is U.S. Aid Money or “Tied dollars” which can only be spent within the United States on specific types of military hardware. The use of these various monetary categories is directed towards optimum exploitation of local resources and acquisition of foreign weapon systems, components or technology. Jacqueline Porth has described this budgetary juggling in the following terms:

“Most of the Israeli Shekels are used for salaries, construction and services such as transportation, leaving very little over for procurement purposes. About 90 per cent of the hard currency or “free” dollars ... are used to maintain the weapon systems which have already been purchased from France, the UK, and the F.R.G. (Federal Republic of Germany) leaving again little money for new procurement. It is the US aid (programmed at $1.4 billion for fiscal year FY 1982) which leaves most room for actual procurement.”

Aside from whole unit purchases such as the F-16 fighter or the Hawk surface-to-surface missile, Israel must buy a whole range of essential components for her locally produced weapons. As Rosen and Moustafine point out:

“For many of the larger systems, only 40-60 per cent of the product is Israeli made measured in terms of value added, and it is often the most sophisticated and essential components that are imported. So, while the Israeli arms industry is an important element in the total arms equation and contributes significantly to the domestic economy and to the substitution of imports for balance of payments relief, it could not on its own, maintain the Israeli defence forces at their present level of supply or technical sophistication.”

AN ARMS BAZAAR?

As has already been demonstrated, Israel is also heavily dependent on the sale of about 40% of her indigenous weapons to offset the enormous costs of domestic production. Nevertheless, these exports have become a very valuable source of foreign currency; in the 1980-81 period Israel’s weapons sales rose by 40% to a total of $1.3 billion. What is most disturbing about these sales is that they are often carried out in an unscrupulous and mercenary manner, dangerous to world peace and stability.

For two years Israel supplied huge quantities of arms to Nicaragua until only two weeks before Samoza’s fall from power — and after 50,000 civilian deaths! In El Salvador, where 30,000 civilians have already died under similar circumstances, Israel continues to supply another equally repressive regime. Between 1972 and 1977, for example, Israeli sales to El Salvador represented 81% of her total military imports. For Israel, they represented 15% of total military exports for the same period and included 25 Arava military transport aircraft. Similarly, Israel is now Argentina’s largest single supplier. Previous exports have included 26 fighters and 4 fast patrol boats. In addition, when Argentine troops found the Falklands a little too chilly, a quick message to Tel Aviv brought thousands of Dacron padded “Dubonim” (Hebrew for teddy bears) combat jackets. Other special customers in Latin America include Chile, Paraguay, Guatemala, Ecuador and Honduras.

In Asia, Israel supplies the military regimes of Thailand and Burma and the K.M.T. government in Taiwan. Even governments which are vocally hostile to Tel Aviv have been supplied. Iran, for example, which had been a major customer during the Shah’s time, was prepared to deal with the “Zionist entity” when she required aircraft spares for her war against Iraq. India, perhaps a less vitriolic critic (but a vocal critic nonetheless), purchased a number of Soltam’s heavy mortars in the wake of the Sino-Indian war. Most surprisingly, both the Western and Soviet press have carried reports of Israeli arms sales to China in July and November 1980. Other perfidious transfers have been to the “Emperor” Bokassa of the Central African “Empire”, the Phalangist and Hadad forces in Lebanon, and the unfortunate Kurdish rebels in Iraq. Since re-establishing diplomatic relations with Zaire in 1982, Israel has also begun to supply President Mobuto’s armed forces.
But perhaps the most insidious of Israel’s military relationships is that which it has forged with South Africa. Not only has Israel supplied the racist in Pretoria with “Reshef” missile boats, Arava transports, Gabriel anti-ship missiles and Soltam mortars, but she has overhauled South Africa’s ageing Centurion tanks (after Britain’s refusal) and she allows South Africa to manufacture the Uzi submachine gun under licence. In return, Israel receives diamonds, coal and steel which are crucial to her major industries. On a more clandestine level, Israel and South Africa have reportedly been collaborating in the nuclear and ballistic missile fields.

As the West Bank and the Gaza Strip fast approach the status of Israel’s own “Bantustans”, the sad irony of the State of Israel — the national ideal of millions of brutally persecuted people — has revealed itself in direct and indirect persecution and brutality. As victims of the most comprehensive campaign of genocide in human history, the Jews have inherited an awesome moral burden. Will the weapons they have fashioned for their own protection help make Israel “a light to the nations” (Isaiah 49:6) or will they bring darkness into the lives of countless more Arabs, Asians, Africans and Latin Americans? [5]

NOTES

1. Israel Museum, Neolithic Settlements in the Jordan Valley, Jerusalem, 1968
2. As Gen. Moshe Dayan points out in his book Living With the Bible, London, 1978: “The children of Israel had paid the price and learned the lesson of their earlier defeat. They would not again undertake direct assaults on fortified cities, or act impetuously and fall into the ambushing arms of the enemy. Furthermore, their warriors were now thoroughly trained in their weapons — the sword, bow, sling, javelin and shield.” p 95. See also: Moscati, S., Ancient Semitic Civilisation, (1957), New York, 1960.
12. “Ozek”: Acronym of the Hebrew words for “One more step forward”.
13. An account of the underground activities of Ta’as is contained in Allon, Y., op cit., pp 161-164, and ancillary details are also to be found in Collins, L., & Lapiere, D., op cit., p 153.
14. Slavine’s remarkable exploits are covered by Collins & Lapiere, op cit., pp 65-67 and by Shimon Peres (currently leader of the Israeli Labour Party) in his informative book David’s Sling, London, 1970, pp 109-110. According to Peres: “To this very day, twenty years later, some of this equipment is still being operated at full intensity. But some of the machinery was too sophisticated for Israel’s limited capacity in the early years, and the last of the crates were in fact opened only a short time ago, and were pounced upon Israel arms technicians as upon hidden treasure.”
THE EVOLUTION OF ISRAEL’S DEFENCE INDUSTRIES

(ii) See also: Newsweek, July 21, 1980. Israel’s denial can be found in the Jerusalem Post, July 14, 1980.

57. On May 14, 1982 Prime Minister Menachem Begin was cited by AAP-Reuter as having said that Israel supplied right wing Phalangists in Lebanon with US $100 million worth of arms for their fight against Palestinian and Lebanese leftist forces.


59. (i) Pallis, E., et al. (ii) According to the authors of Two Minutes Over Baghdad (Perlmutter, A., et al 1982) Israel and South Africa are developing a “cruse missile” with a range of 2,400 km, a “neutron bomb” and various “Nuclear delivery systems”. While these claims may seem exaggerated if not fantastic it is significant to note that Two Minutes Over Baghdad was published after four months in the hands of Israel’s censors and that the three authors are well known establishment figures with excellent connections in the military and government. One of them, Amos Perlmutter, . . . worked for four years at the Israeli nuclear centre at Dimona and is now a professor at the American University (Washington)”. See: The Age, May 17, 1982, p7.

60. Readers may find the following general articles on Israel’s defence industries of use:


Edward Duyker first visited Israel in 1978. He received his Doctorate from the University of Melbourne in 1981 and joined the Department of Defence in the same year. He maintains a strong interest in the Middle East and is currently co-authoring a book on the Israeli Army.

BOOK REVIEW


Reviewer: Jeff Popple, B.A. (Hons.), Department of Defence.

MOST Australians will appreciate the nationalistic intention of Canadians Behind Enemy Lines, 1939-1945. Roy Maclaren has tried to highlight the Canadian contribution to the British organisations which operated behind enemy lines during World War II. The British auspices, under which these organisations operated, too readily concealed the valuable contribution made by other members of the Commonwealth. Maclaren has tried to right this by accentuating the Canadian participation, but unfortunately his approach, while satisfying nationalistic impulses, does not provide an analytical framework from which to effectively evaluate these organisations.

By using this approach Maclaren is restricted to only being able to examine the role of the Special Operations Executive (S.O.E.) and M19, when and where Canadians were involved. He can merely consider isolated incidents, and is prohibited from seriously analysing the effectiveness of the organisations, and of the Canadian contribution to them. Despite this analytical weakness, Canadians Behind Enemy Lines is an entertaining and,
when Maclaren is forced to rely on primary sources, informative book.

Canadians, mainly those of French extraction, were first used by the S.O.E. in France. Between 1941 and September 1944 twenty-five Canadian agents were deposited in Occupied France, of whom seven were eventually captured and executed. Although this is only a very small proportion of the estimated eighteen hundred S.O.E. agents used in France, some of the Canadians achieved spectacular results. For instance, the first Canadian into France, Gustave Bieler, ran an extremely successful resistance circuit for an unprecedented year and a half, before his capture and execution.

Maclaren reveals some interesting sidelights on S.O.E. operations in France, like the dropping of two million francs in ransom money in order to secure the release of seven Maquis from the Gestapo, and he also provides some fascinating vignettes of the agents involved. Unfortunately his approach prohibits him from examining some of the more significant events, and his more general comments on the resistance and the S.O.E. have been dealt with better elsewhere.

Of much more value are the very interesting chapters on Canadian participation in S.O.E. operations in Yugoslavia and the Balkans. The work of the S.O.E. in these countries has received scant attention from historians, and Maclaren has produced quite an informative account based on primary sources. The Canadians were primarily involved in Yugoslavia, where over twenty Yugoslav-Canadians were deposited during the war. These men established themselves with the various resistance groups, and helped to organise and train the groups. Besides supervising successful sabotage operations, the agents were able to report back on the complex situation in Yugoslavia.

Maclaren also devotes several chapters to S.O.E. activities in the Asian theatre. Many Canadians, mainly those of Chinese extraction, were trained for use in Asia, but only a few actually saw action; and these chapters fall a bit flat and could have been shortened.

Canadians were also active in M19, the escape and evasion organisation. The history of this organisation has already been covered by M. R. D. Foot and I. M. Langley in their book, and Maclaren is merely content to highlight the few Canadians involved. These men received little attention in the Foot and Langley book, and Maclaren provides some interesting details on their activities. In particular, he recounts the superb work done by Arthur Stewart in Singapore, for which Stewart was awarded an O.B.E.

Maclaren's study is an entertaining account, but it lacks the analytical core of other recent releases. For instance, Max Hastings in Das Reich examines the march of the 2nd SS Panzer Division through France in June 1944; from it he is able to come up with a useful and very readable evaluation of the S.O.E. and the resistance.

Canadians Behind Enemy Lines can be obtained from Alternative Publishing Co-op. Ltd., 40 Levey Street, Chippendale, N.S.W., 2000.


Reviewed by LtCol. John Moore, 2 Training Group, Ingleburn.

It would be fair to say that in the field of the military and militaria there is no name more respected than Janes — the mere mention of the name conjures up a reputation for accuracy and detail not obtainable in any other reference.

This new title in the Pocket Book Series is no exception.

Armies of the World, within its stated limitations, provides a concise summary of every army in the world — its assessed capability, its state of readiness, strength and outline organisation.

For example, of the Australian Army, the reference says: "Undoubtedly one of the most efficient armies in the world, the Australian Army is small and this must count against its effectiveness for a prolonged general war. However, for the defence of the Homeland and for small scale offence operations in the Pacific theatre, there is no doubt that it is a force to be reckoned with . . ."
sional armies in South America and it regards itself as being well capable of defending the country from external attack, though it is difficult to see where that might come from."

This statement is not and cannot be regarded as a criticism of Colonel Weeks’ assessment. It is perhaps an excellent example of how quickly the international situation can change — no threat at the time of assessment to major threat at the time of publication. Perhaps there is a lesson here for defence planners?

Essentially the reference is a pocket book designed to provide ready information for a busy person without the need to peruse a library to obtain necessary information. It makes no pretence at being a detailed reference nor at attempting to group nations according to alliances. It is alphabetical and each nation is treated individually.

Armies of the World is well bound with hard cover, has good quality illustrations and for the collector or researcher, is well worth its recommended retail price of $16.96.


HAVING acquired this book while on a recent AIRTC Camp at RAAF Fairbairn, I commenced reading same with possibly the idea in the back of my mind that here was “another” volume on Australian Service Arms, however, such is not the case, from the Foreword, written by Lieut-General Sir Sydney Rowell K.B.E., C.B., to the cessation of hostilities in 1945, the sense of frustration shows through all along the line. The fact that so many men were trained, and may I say well trained, to an above average technical and fighting level only to be passed over due to Government decision at the time was apparently felt by the higher command in the Armoured Division as well as the ordinary troops.

Major-General Hopkin’s dedication to the Armoured Corps as a whole shows up in the attention to detail provided in the various appendices plus the information supplied in each chapter. The only Unit which I could not find mentioned was Ist Armoured Training Regiment, which was at Greta Camp, November-December 1941, and through which passed the early intakes to various Armoured Regiments. It was very gratifying to read of the success of Armoured Detachments, both in the S.W.P.A. and also later in the various conflicts to which Armour was attached, Korea, and latterly, Vietnam, and to conclude from the results gained, especially in Vietnam, that at long last the Royal Australian Armoured Corps had “come of age”.

As one who trained with the 2/11th Australian Armoured Car Regiment, I can well remember the substitution of vehicles, even using motor bike-sidecar combinations as “Scout Cars”, during training, then, after going to Western Australia, being equipped with Staghound Armoured Cars and Canadian Scout Cars, then the Regiment being brought to W.E. with ex-members of the 6th Motor Regiment only to have the whole thing fold up and the Regiment disbanded in June 1944, when myself and numerous others joined the R.A.A.F.

“Australian Armour” is a very enjoyable book, a MUST for any ex member of Armour, and I wholeheartedly recommend reading of same to any student of Australian Military History.


Reviewed by Dr. Ed Duyker, Department of Defence.

BIOLOGICAL and chemical warfare are not new phenomena; for thousands of years men have used the bodies of dead soldiers and animals to poison enemy wells and have used boiling water and oil to scald besieging troops. In the 14th century the Tartars captured Kaffa in the Crimea by catapulting the bodies of plague victims into the city. The Russians apparently used this same method in their war against the Swedes in the 18th century. Simi-
larly, the British used blankets infected with smallpox to wipe out a number of Indian tribes during their colonization of North America. While the authors make brief mention of these early forms of unconventional warfare, they have essentially commenced their account with World War I and the horrible carnage exacted by chlorine, phosgene and mustard gases.

According to the authors:

"At least 1.3 million men had been wounded by gas; 91,000 of them died. Germany, France and Britain had all suffered around 200,000 casualties, and the Russians more than double that figure."

It is one of the macabre ironies of history that Professor Fritz Haber, a pioneer of German gas warfare, should have received the 1919 Nobel Prize for Chemistry; in his acceptance speech he referred to gas warfare as a "higher form of killing".

The authors make mention of the alleged use of gas against the Afghans and Pathans on India's North West Frontier in 1919; they refer to the gas-deaths of some 15,000 Ethiopians in Mussolini's Abyssinian invasion; and they chronicle the frightening story of the discovery of nerve gas by the Nazis. But perhaps the most surprising revelations of this book are those on Allied chemical and biological warfare research during World War II. While Roosevelt saw chemical and biological weapons as barbaric and inhumane, Churchill apparently saw their use as "simply a question of fashion" like "long and short skirts for women"!

Nevertheless, the United States ended the war with by far the largest stocks of such weapons. Although the Allies never used their vast quantities of mustard gas and anthrax strains, there were numerous accidents and the world apparently came perilously close to an awesome holocaust. In this context, Harris and Paxman do provide interesting information on Japan's research into (and scattered use of) chemical and germ warfare in the eastern theatre. It is unfortunate, however, that in their treatment of World War II, the authors do not deal with the systematic use of gas by the Nazis against the Jews; whereas they provide meticulous details of the use of poison in the assassination of numerous Eastern European dissidents by the Soviets and the Bulgarians.

Although all the major powers relied on massive and blatantly cruel animal vivisection in developing their weapons, the Germans, Japanese and it seems also the Soviets tested their products on political, military and other prisoners, while the Allies only relied on naive volunteers for limited tests and trials. In the post-war period, however, the United States appears to have used a number of unwitting human "guinea pigs" for testing various psychologically incapacitating agents. In some instances the use of LSD led to major personality damage and even suicide.

This book ranges widely and provides a relatively cohesive review of germ warfare research during the 1950s and 1960s, but its references to American use of CS gas and defoliants in Vietnam; Egyptian use of gas in Yemen; and recent reports of chemical warfare by Communist forces in Kampuchea and Laos are only fleeting. Despite an obvious paucity of information on this subject, it is surprising, for example, that recent accusations of Soviet chemical warfare in Afghanistan are not even mentioned.

In summary, this book is a serious work of scholarship (though it relies heavily on the formidable work of established authorities on the subject, such as Julian Perry Robinson) and provides a disturbing historical introduction to one of the most dangerous and distasteful aspects of modern warfare. In the words of the authors:

"Poison gas and germ weapons turn civilization on its head. Diseases are not fought, but carefully cultivated; doctors use their knowledge of functions of the human body to devise ever more effective means of halting those functions; agriculturalists deliberately induce fungi and develop crop destroyers. The chlorine that poisoned our grandfathers at Ypres was available thanks to our grandmothers' desire for brightly coloured dresses. Modern nerve gases were originally designed to help mankind by killing beetles and lice: now in the hands of the military, they are, literally, insecticides for people. Chemical and biological warfare, as one writer has put it, is 'public health in reverse'."

While Australia may have officially renounced such methods of war, readers will find the various mentions of chemical warfare training facilities and protective "counter-measure" research in Australia of particular interest.