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Cover: Detail from 'The Tanks First Stunt, Flers 1916', by Frank Crozier. At the Australian War Memorial.

ARMY JOURNAL

A periodical review of military literature

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(Australian War Memorial)

Infantry advancing with tanks and Bren carriers during exercises in the Western Desert, October 1940.

THE FUTURE OF THE BATTLE TANK



R. M. Ogorkiewicz

WHEN I was invited to talk at the Institution on the future of the battle tank I came to the conclusion that, in the first instance, I would have to attempt to answer one simple but basic question. The question is whether there will be a need for the battle tank, or any other tank-like vehicle, in the foreseeable future.

The future of tanks has been questioned many times already and as often as not the conclusion has been that they would be of no further value. So far, none of these conclusions has proved to be true. It is tempting, therefore, to conclude

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This article was a lecture given at the Royal United Services Institute for Defence Studies London on 17 March 1971 and is reprinted in the *Army Journal* with permission.

that any present doubts about the future of tanks will prove equally wrong. However, such simple historical extrapolation might not be valid. For this and other reasons it is wiser to examine the problem more closely. In particular, it is important to consider why tanks have been written off so many times and why, in spite of it, they have remained an important item of military equipment.

When the earlier verdicts against tanks are considered it is evident that they generally coincided with the development of new armour-piercing weapons. Thus tanks were being written off during the 'thirties when small-calibre anti-tank guns came into general use. They were written off again during the Second World War when rocket-firing aircraft appeared and when the bazooka and other anti-tank rocket launchers came into use. At present they are being dismissed because of the development of anti-tank guided missiles fired from helicopters.

The reason why tanks have been written off on all these occasions is that the development of each new anti-tank weapon made it clear that tanks' armour could be perforated. This, in turn, shattered the belief which persists among some people that tanks are immune to hostile fire and that this is their principal virtue. In fact, tanks have never been invulnerable and armour protection has never been their only or even principal attribute. Thus, all the conclusions that tanks were made obsolete by the development of the various armour-piercing weapons were logical but derived from a false premise. They were, therefore, in error and proved to be so in practice.

What is far more important than the armour of tanks is their ability to provide a high degree of tactical mobility to heavy, direct-fire weapons. This accounts for their survival in spite of their vulnerability to a number of anti-tank weapons and is the ultimate justification of their development.

Admittedly, at different times, tanks have offered a number of other and more specific advantages. For instance, the first British tanks of fifty-five years ago offered the advantage of being able to crush belts of barbed wire and of being immune to machine-guns. But in the perspective of time these advan-

tages are secondary to the fact that the development of tanks made it possible to manoeuvre heavy weapons tactically, which had become virtually impossible when these weapons still relied on the limited and vulnerable muscle power of men and horses. It was this, in essence, which made tanks break the deadlock of trench warfare — in spite of the fact that they were vulnerable from the start to some weapons such as field-guns.

The tactical mobility which tanks have provided for heavy weapons stems from two sources. The more obvious of the two is the ability of tanks as tracked automotive vehicles to move over various types of terrain and obstacles. The second source of the mobility of tanks is their armour which, for all its limitations, enables them to ignore the threat of fire from a significant number of weapons. In consequence, tanks can move about the battlefield with greater ease than they could without their armour.

Either because it is less obvious or for other reasons, the contribution of armour protection to the overall tactical mobility of tanks has tended to be ignored. In contrast, the adverse effects of the weight of armour protection on the automotive performance of tanks and their strategic mobility have received much attention in recent years. As a result there has been a widespread demand to keep armour down to a minimum to make tanks lighter and therefore more mobile. However, the possible increases in the tactical mobility of tanks due to lighter weight have proved limited. Thus the alternative course of providing tanks with a reasonably high degree of armour protection offers a greater overall improvement in their tactical performance.

The amount of armour which tanks can afford cannot, of course, ever make them immune to more than a fraction of the weapons likely to be deployed against them. But it can, nevertheless, make them considerably less vulnerable than other vehicles. This relatively lower degree of vulnerability represents the real value of tanks' armour and in combination with their automotive characteristics makes them what they are, namely a uniquely effective mobile ground weapon platform.

As such, that is as mobile weapon platforms, tanks are likely to be needed as long as there are ground forces. They are likely to be needed because ground forces will continue to need something a degree or two more powerful than their portable weapons, and as long as they do they will also need tanks, or tank-like vehicles, to make these weapons more mobile and more effective than they would otherwise be.

In the light of all this, the only thing that could eliminate the need for tanks is the development of another and superior weapon platform. Such an alternative has, in fact, already been suggested by some in the shape of the helicopter. The helicopter is undoubtedly greatly superior to the tank and indeed all other ground vehicles in its speed. However, the helicopter is also vulnerable to a much greater number of weapons than the tank, and its ability to operate in face of a sophisticated enemy still has to be proved. Moreover, the helicopter is less versatile as a weapon platform than the tank. In particular, it cannot carry high velocity guns which are still needed against enemy tanks. It is also unable to remain in a given area as long as tanks can, which means that its surveillance capability is restricted in time and can prevent it from delivering fire when required.

For this and other reasons it is difficult to see how the helicopter could eliminate the need for tanks, however good it might be in some respects and useful as a supplement to tanks.

If we agree that there is a continued need for tanks, the next question is what form they are likely to take. The answer to this depends, in the first instance, on the weapons which tanks are expected to make more mobile, for it is round these weapons that they will be designed.

In the past, up to the middle of the Second World War in fact, the position was relatively simple as the choice reduced itself to one weapon, which corresponded to the contemporary 75 to 76-mm field-guns. This was capable of effectively engaging almost all battlefield targets within direct-fire range, including enemy tanks, and thus largely met contemporary requirements. However, during the Second World War this type of weapon ceased to be adequate because of the increasing thickness of



US M60A1E1 battle tank.

tank armour. In consequence, its place was taken by more powerful, larger calibre and inevitably heavier guns. As a result, battle tanks now mount long-barrelled high velocity guns of 100 to 105-mm, while the Soviet T-62 has an even larger 115-mm gun and the British Chieftain a 120-mm gun. Guns of this size have made battle tanks capable of defeating the increasingly thick armour of hostile tanks, even at long ranges, but they also made them heavier and less versatile.

In fact, the development of tanks since the middle of the Second World War has been dominated by the problem of fighting hostile tanks. This was inevitable since tanks represented the greatest single threat in several areas and since the most effective counter to them are other tanks. But the more effective tanks became at fighting other tanks the more they were thought of as specialised, limited-purpose vehicles.

This trend could be aggravated by the development of guided-missile systems as an alternative to guns. These systems are generally considered superior to tank guns when it comes to engaging other tanks at very long ranges. But they also suffer from a number of disadvantages, the most immediate of which is cost. For instance, the Shillelagh guided missile developed for US tanks costs about £1,200 apiece at the present rate of exchange, which is equivalent to more than 20 rounds of armour-piercing gun ammunition. Thus, on cost-effectiveness grounds alone, the replacement of guns by missiles can only be justified for fighting at very long ranges, when guns are relatively ineffective, or under special circumstances.

The limitations of tanks mounting guided-missile systems have led to the development of gun/launchers which can fire conventional projectiles as well as guided missiles. This is exemplified by the US 152-mm gun/launcher developed for the M551 Sheridan light tank and the M60A1E1 battle tank, its more recent version developed for the MBT-70 or XM803, and the French 142-mm ACRA gun/launcher.

In theory the gun/launcher offers the advantages of both gun and missile systems, but in practice it represents a compromise between their conflicting requirements and not the best that can be achieved with either. For instance, the calibre of the gun/launcher has had to be larger than that of a tank gun to accommodate the large diameter of the missile. At the same time the gun/launcher does not take the advantage of missiles which can be fired from retractable launchers without the launch vehicle exposing itself from behind cover. Moreover, the gun/launcher solution burdens each tank with the complexity and cost of a missile system which are difficult to justify most of the time. There is, therefore, little to recommend this solution, and even where a gun and missiles are mounted in one tank it is better to separate them. This makes it possible to keep the majority of tanks armed only with guns which still appear the most appropriate to the conditions usually encountered by tanks.

Even when it comes to fighting tanks at long ranges guns can compete with missiles to a greater extent than was

thought possible at one time, because of the development of advanced fire-control systems. In particular, the combination of laser range finders and various sensors with electronic ballistic computers has considerably increased the range at which tank guns can engage hostile tanks with a reasonably high degree of success. In fact, this range is now greater than the range at which tanks most frequently acquire targets which confines the long-range advantages of missiles to even fewer occasions.

There remains one other advantage which guided-missile systems have over guns, namely the ability to be mounted in relatively light vehicles. A good example of this is provided by the US M551 Sheridan light tank which mounts a 152-mm gun/launcher and weighs less than half the weight of the lightest of contemporary 105-mm gun battle tanks. Missiles comparable to the Shillelagh or the Sheridan can be mounted in even lighter vehicles which offer the advantages of greater strategic and to a lesser extent tactical mobility.

However, the gun/launcher of a tank as light as the Sheridan cannot fire high-velocity armour-piercing shot, in contrast to the gun/launcher of the MBT-70 or XM803 which is longer barrelled and needs to be mounted in a much heavier vehicle. In consequence, the Sheridan, like other light armoured vehicles, must rely for defeating armour on shaped-charge projectiles and missiles, which makes it less of a threat to hostile tanks. In other words, were all tanks light and thus unable to fire large-calibre high-velocity armour-piercing shot the designers of opposing tanks could give them a much higher degree of immunity.

Moreover, lightweight tanks are inevitably lightly armoured and there is a strong case for sacrificing much of the advantage of light weight for the sake of armour protection, which nullifies the weight advantage of missile armament. The precise amount of armour which tanks should have has been a highly controversial subject and the difference of opinion is reflected in the weight of battle tanks built during the past decade. Thus, at one end of the range there are tanks like the French AMX-30

which weigh less than 40 tons while at the other end of the scale the Chieftain weighs more than 50 tons.

A fact in favour of heavily armoured tanks is their degree of immunity which, for all the developments in anti-tank weapons, is still very considerable. In particular, they are largely immune to light, portable anti-tank weapons which can cause some damage but have little chance of killing a well-armoured tank. In fact, it takes a powerful weapon to destroy such a tank. Now, to be fully effective, any weapon of this kind needs to be mobile,



Japanese main battle tank.

which means that it has to be provided with a suitable mobile platform. But the most effective ground weapon platform is a tank, or a tank-like vehicle, as I have already tried to show. Thus, even by considering the effectiveness of anti-tank weapons one is led to the conclusion that there is a need for tanks, if only as the most effective means of fighting other tanks.

To return to the question of heavy armour protection, which increases tanks' chances of survival under fire, an even better way of achieving the same object is to reduce the probability of tanks being hit. This can be done in a number of ways, the most immediate being the lowering of the silhouette of tanks and therefore the height of the target which they offer. This approach has been successfully demonstrated by the Swedish S-tank and the US MBT-70 both of which have departed from the traditional two-tier layout of tanks with the gun located above the driver. Instead, the drivers of both tanks sit alongside the main armament at the same level as the rest of the crew.

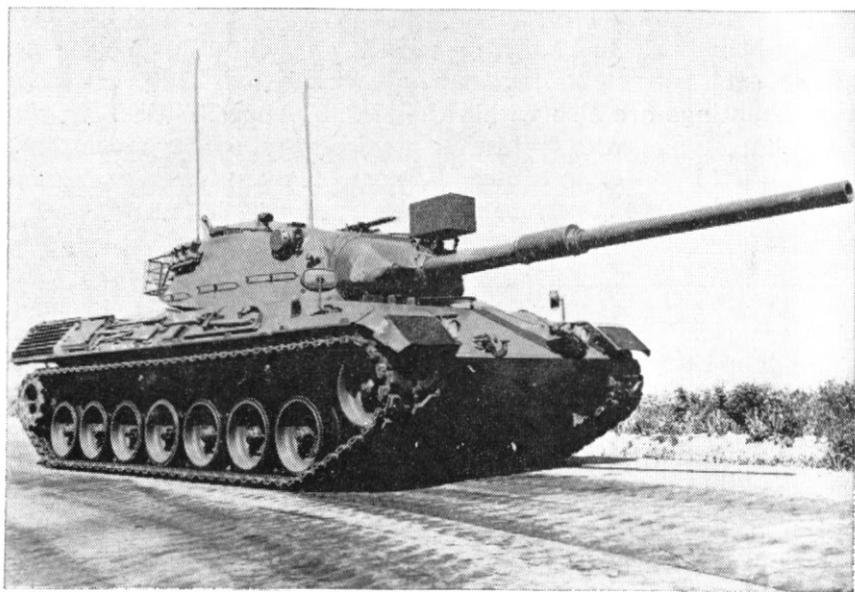
Missile armed tanks could easily present a negligible target by being able to launch missiles from behind cover with no more than a retractable periscope showing above it. Retractable gun mountings are also within the realm of possibilities. In the meantime, tanks with adjustable hydro-pneumatic suspensions, like the US MBT-70 and the new Japanese main battle tank, can already 'duck' behind cover when not firing their guns.

Any significant reduction in the size of the target which tanks offer will, of course, create additional problems for their opponents as it will be more difficult to locate and to hit them. To make up for it and improve their target acquisition tanks will require additional devices, such as tall retractable masts with television cameras which would enable them to see over some terrain features. A solution to the problem of attacking armoured vehicles virtually or completely hidden behind cover already exists in the latest types of missiles with electro-optical guidance systems, but these are bound to be costly and vulnerable to counter-measures. Tank gun systems might, therefore, have to be developed to provide plunging as well as direct fire.

No matter how good they might be at exploiting the terrain, tanks will still have to break cover. When they do their chances of survival can be increased by making them more agile, so that they can dash more quickly from cover to cover and thus reduce the time during which they expose themselves to hostile fire. The most obvious way of improving the agility of tanks is to provide them with more powerful engines and thus

increase their power-to-weight ratio above the 20 horse-power per ton already reached by the German Leopard and the French AMX-30. In fact, the MBT-70 was already intended to have almost 30 horse-power per ton in its original form.

A less obvious but no less important way of making tanks more agile is to simplify the methods of operating them. A major step forward in this direction has been made in the design of the Swedish S-tank, which is provided with integrated driving and gun controls and which is so simple to operate that in emergency this can be done by one man. As a result, the S-tank can



German Leopard tank.

dispense with all the traditional, time-consuming procedures of the commander issuing orders which then have to be acted on by the gunner, loader and driver. Thus, the S-tank can react more quickly to a situation than earlier tanks.

In theory, increases in the power-to-weight ratio not only increase the ability of tanks to dash across short distances but

also their sustained maximum speed. In practice, however, they only significantly increase sustained speed on hard level surfaces. Off-the-road speed is governed by other factors, the most important of which is the amount of pitching and bouncing that their crews can withstand. In other words, the sustained speed of tanks off-the-road is governed by their ride characteristics rather than the power of their engines. It has been claimed that the recent developments in hydro-pneumatic suspensions will greatly improve the ride characteristics of tanks but it is very doubtful if they will, in fact, significantly increase the cross-country speed of tanks.

To be significantly faster, tanks need to be longer than they are or to be fitted with powered suspensions with automatic ride control. Unfortunately, the former implies articulated, two-part vehicles and the latter great complexity, neither of which seems acceptable. Moreover, even if higher speeds were achieved, it is doubtful if they would make much difference to tanks' chances of survival. Thus, tanks might become faster moving targets but they are not going to be so much faster that this will significantly reduce their chances of being hit once they have been acquired in the sights of a hostile weapon.

Battle tank engines themselves have all been diesels in recent years, except for the S-tank which has a gas turbine in combination with a diesel. The engines of future battle tanks might still be diesels, though of a highly supercharged type having a much higher specific output than the current models. Tank diesels are, however, being challenged by gas turbines which offer the advantage of higher specific outputs but whose overall fuel consumption is unlikely, for some time at least, to match that of diesels. There is now also the possibility of a rotary compression ignition engine, or a Wankel diesel, which has been developed during the past few years by the Motor Car Division of Rolls-Royce. When fully developed this type of engine is likely to occupy an intermediate position between the conventional, reciprocating type of diesel engine and the gas turbine.

Further development of any one of the three types of engines is not, however, likely to make any radical change to the

situation. Their higher specific output could make tanks smaller, but any reduction in the size of engines in relation to their output will probably be offset by demands for higher outputs. A reduction in the size of tanks is more likely to come from a reduction in the amount of ammunition which they are expected to carry. This could well take place because of improvements in the hit probability of tank weapons, by their missiles or guns, which justifies a reduction in the number of rounds carried in tanks. An additional reason is provided by the possibility of re-loading tanks more quickly than is done at present by the traditional methods of manhandling the ammunition round by round. For instance, all its ammunition could be delivered to a tank and loaded into it in one package, as is already done in the case of the Swedish VK155 automatically loaded 115-mm self-propelled gun. However, some of the reduction in the space required by the primary armament is bound to be taken up by secondary armament, which needs to be better than the present-day rifle calibre machine-guns to cope with helicopters and other targets not appropriate for the main armament.

Some improvement might also be expected in the effectiveness of armour protection. For all the remarkable developments of new materials in recent years there is still no satisfactory substitute for steel as the basis of battle tank armour, but future armour might at least be more sophisticated than today's homogeneous steel plates. For instance, it might consist of layers of steel of different hardness, and the S-tank already has a novel form of ribbed armour.

There might also be other improvements, but whatever is done it will not be fully effective if it does not go hand in hand with the development of appropriate methods of employment. What is required is essentially better adaptation to the environment of the battlefield. In face of increasingly effective weapons this means moving still further away from the earlier tactics of head-on assaults and placing more emphasis than ever on a combination of fire and movement with the use of ground cover. As a result tank actions might look less impressive but tanks should not be less effective for being more difficult to destroy.

In principle, tanks need to do what the infantry has done to retain its effectiveness in face of increasingly deadly fire, which was to evolve its tactics from fighting in serried ranks through skirmish lines to infiltration tactics and the fullest use of the ground. A similar example might be drawn from naval warfare where, as weapons became increasingly destructive, the majestic lines of battleships gave way to unobtrusive submarine patrols. Parallels between naval and land warfare cannot, of course, be carried too far. In particular, tanks cannot emulate submarines and burrow underground although, like the S-tank, they can dig themselves in for temporary protection. They can, however, assume more modest forms and adopt more subtle tactics which will give them a better chance to survive, just as warships have survived in spite of the extinction of the battleship.

The best tactics will not, of course, prevent some tanks being destroyed, any more than tanks' own characteristics will ever make them invulnerable. But, given adequate further development, they should be able to meet the continuing need for a mobile ground weapon platform. □

In arguing the case for tanks in jungle warfare, I do not suggest that they are the cure-all which will guarantee victory. I do suggest, though, that certain fundamentals be carefully evaluated.

First, any power fighting in the jungle against an enemy with unlimited manpower used to a low standard of living must have some 'equaliser' if it hopes to win.

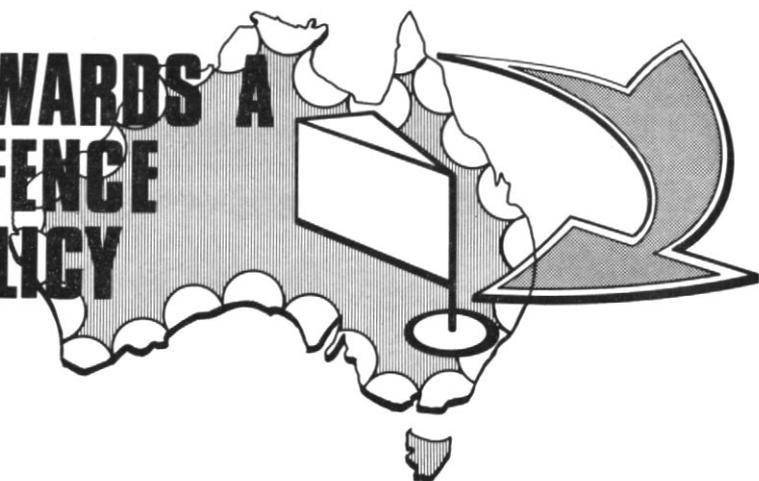
Secondly, we are told that the atomic bomb is not the effective weapon in the jungle that it is in open warfare. Nor is air power the 'equaliser', as shown by Korea and Indo-China.

Thirdly, effectiveness of an army is measured in terms of fire-power able to be delivered at the right time and place against the enemy. Obviously, an infantry army will not beat the Communists on this score.

Whether we like it or not, then, we come back to tanks. An armoured regiment on tropical establishment has the gun power of one and a half regiments of field artillery, the machine-gun power of six infantry battalions, and the light machine-gun power of three infantry companies. All this it achieves with three hundred and sixty men.

—Lieutenant-Colonel S. C. Graham, 'Tanks against Japan', AAJ, June 1955.

TOWARDS A DEFENCE POLICY



*Wing Commander N. F. Ashworth
Royal Australian Air Force*

THE problems of national defence are complex, especially during a period of low threat. Defence often involves a large expenditure by the government on a programme that in times of peace brings no immediate tangible benefits. Furthermore, public discussion of defence matters is frequently couched in emotive terms, thus rendering logical argument difficult. As a consequence defence policies are rarely understood clearly by the public at large. Even within the defence establishment, the more fundamental defence policy issues tend to be couched in such general terms as to permit a variety of interpretations.

Modern military equipment has become increasingly sophisticated, and expensive. This has given rise to the need for larger capital outlays and to an increase in the quality of the manpower needed by the defence forces. Lead times for equip-

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ment procurement and manpower training have also increased, thus forcing governments to project their defence policies further into the future, further into the unknown.

For most nations even a low level of defence preparedness can make a significant impact on the national economy, taking up resources that might better be devoted to social welfare and national development. In a world situation where specific threats to national security are generally low, but where the overall level of tension between opposing blocks and ideologies is high, some defence preparedness is normally considered to be an essential. Thus the basic dilemma — how much defence?

The determination of defence policy is essentially a political process, and is thus subject to the limitations that such a process imposes. In political decision making emotion can compete with reason, with emotion in particular being subject to unpredictable and rapid change. Politics is also a process of compromise between conflicting interests, some of which may be nationally oriented, while others are both personal and selfish. In general there is a tendency in political policy formulation to avoid dealing in terms of the fundamental issues involved and of making firm commitments that extend too far into the future. Thus defence policies tend to be both pragmatic and short term.

While the pragmatic approach may be well suited to the political process, it usually forms a poor basis upon which to analyse national defence policy. Complex though defence may be it is not beyond logical treatment. Fundamental issues have to be examined, terms defined and concepts developed. Defence policy can be developed by following through a number of steps, starting with the basic issues. Fact and value judgments must be separated, as must assessments based on subjective predictions of the future be separated from those based on factual data.

Definition of Defence

Together with the confusion that often marks defence policy is a confusion as to the meaning of the term defence itself. For this article, defence is defined as the use of military and other means to protect the national interest against a military threat

posed by an external power. Defence as defined here excludes internal security, a problem essentially different in nature from external aggression. To separate defence and internal security in no way denies the importance of internal security for many nations. Nor does it deny the use of military forces in the internal security role. What it does do is to assert that the problems of defence and internal security are better analysed as separate questions. Even in a nation faced with both external aggression and internal disorder, the separate consideration of the two will enable a better policy for their joint handling to be drawn up.

Fundamental Issues

Perhaps the most fundamental issue is that of war itself. Is war justifiable? Should men be set to kill each other as a deliberate act of policy? Here the question of the use of war as an act of self defence as against aggression poses a most complex moral question. Wars of aggression are easy to condemn, and if they could somehow be prevented the world would be a better place. But what of the right — or is it a duty — of self defence?

Whatever the answer to the complex moral questions posed by war, the fact remains that wars do occur. As yet no nation or individual has found the answer of how to stop war. Man is by no means perfect. He is not all brotherly love, and at times is suspicious, selfish, vengeful and irrational. These imperfections are as much in evidence in the nation as a whole as they are in the individual. War as an act may not be right, not even some would argue for self defence. Also, war is a waste of human lives and effort, and rarely does the aggressor achieve any net benefit. But, while some nations still resort to aggression, and the majority of people in the others still assert the right to self defence, war will remain a regrettable fact of international life.

To say that war is a fact of international life in no way implies that individual and national effort should not be made to avoid war or threat of war. For any nation, maximum security is achieved by eliminating the threat of aggression. This may be done either by making the task of the potential aggressor virtually impossible or by removing the desire of other nations to commit aggression.

Defence, as defined in this article, implies the use of military forces in the role of protecting the nation from aggression and does not envisage the use of military force to further the national interest by committing aggression. However, the line between aggression and defence is by no means clear. Can a pre-emptive strike be considered as an act of defence? Is the establishment of a zone of influence in neighbouring nations to be considered as an act of aggression if it enhances one's own defence posture? To a large extent, whether an act is to be classed as aggression or defence depends on one's point of view in the particular conflict.

National Interest

Central to the problem of defence is the national interest. Here the national interest is defined as that series of matters that a nation sees as fundamental to its well-being. What is relevant here is the national interest as seen by the nation itself, or more narrowly by its government, rather than as seen by other nations or the world at large.

While the detail of the national interest will vary from nation to nation, particularly as to emphasis and priority, long term interests can be grouped into two categories. The first is concerned with the survival of the nation, interests that can be expressed as the maintenance of the freedom of the nation to choose its own way of life for its own people within the bounds of its own territory. The second is concerned with advancement or growth, interests that can be expressed as a desire to increase the national wealth and sense of importance.

In furtherance of the two interests of security and growth, national policies are directed to both protection and promotion. Unfortunately the interests of nations are not always compatible. Not all nations agree as to just who are rightfully their people or what is their territory. Growth may be sought at the expense of others, with the consequence that promotion by one nation may give rise to the need for protection by another.

The defence of a nation is essentially a problem of protecting the national interest, by military and other means, against

the use of military force. Thus defence policy is a policy of protection. It implies the presence of some aggressor or potential aggressor. While military force is essential as a counter when aggression actually takes place, non-military means such as diplomacy, trade and economic aid are also important, particularly as a counter to dissuade others from embarking upon military aggression in the first place.

Threat Assessment

Defence is concerned with the protection of the national interest against a military threat. Before a defence policy can be drawn up a clear assessment must be made of the threat. Such an assessment is, particularly in times of peace, a complex and difficult process. Because it deals with the future, and is largely outside the control of the threatened nation, it involves many intangibles.

For analysis, the threat can be considered as a combination of intention and capacity. To commit aggression a nation requires both the desire to do so and the military capacity to put it into effect. Of the two elements it is the element of intention that presents the greatest difficulty. Being essentially political in nature, intention requires mainly political judgment in its assessment. On the other hand, capacity requires mainly military judgment. Neither intention or capacity are independent. For example, the build-up of capacity requires an initial intention, while the possession of military strength may reinforce a desire to commit aggression.

Time is a vital factor in threat assessment. Both intention and capacity can vary with time. In going from the present into the future the degree of certainty in any assessment varies inversely with time. Thus time adds a third element into the threat, that of predictability or degree of certainty.

Intention

Despite the essentially political nature of intention its assessment can still be subjected to logical analysis. As a first step, the national interest of the potential aggressor should be deter-

mined. This will involve, among other things, an examination of the history and national characteristics of the people, and of the political nature and personalities of the government. These interests should then be translated into more specific aims and objectives. Next, the various courses open to the nation should be set down, and the most likely course selected. At all stages this analysis should be tested against subjective judgments of the nation made by independent authorities, and against recent actions and pronouncements from within the nation itself.

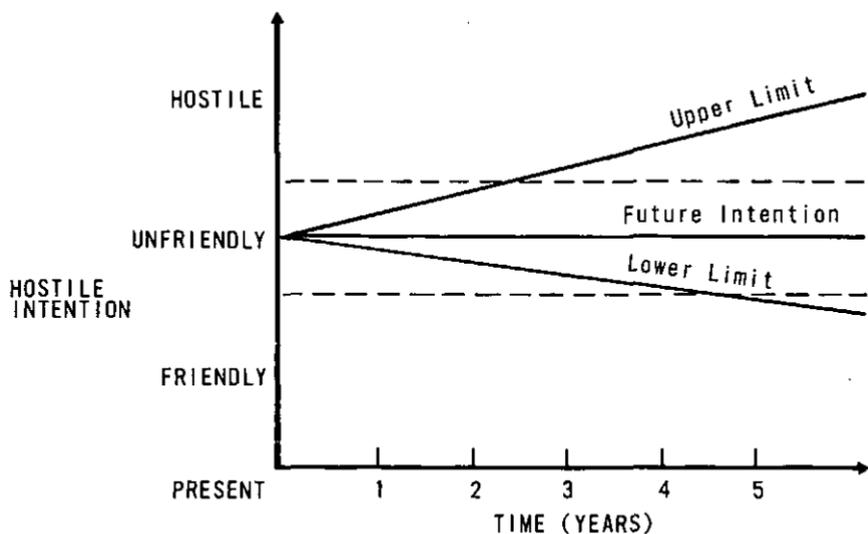


Figure 1 HOSTILE INTENTION

While the intention to commit or threaten aggression on the part of one nation may be largely outside the control of the threatened nation, it is not completely so. Intention, being political in nature, can be subjected to both external and internal political influence, either directly by the threatened nation or indirectly through an ally. Means such as diplomacy, trade and economic aid can be applied to reduce hostile intention. Military force can also be used as a deterrent. Such a deterrent may be nuclear, conventional or both. In essence, the aim is to make the cost of aggression so high that the aggressor will consider the gains as not being worth the cost.

The level of hostile intention against future time can be shown graphically. In Figure 1 intention, expressed in degrees of hostility, is plotted against future time. The element of predictability is also shown by setting down the limits between which the estimate of future hostile intention could fall. While the shape of the graphs in Figure 1 are hypothetical, in practice the limits will always diverge. Perhaps the most important factors in assessing predictability of intention are the political and economic stability of the hostile nation, and the attitude of potential alternative governments.

Military Capacity

In assessing military capacity, account should be taken of both the military forces themselves, and of the backing available

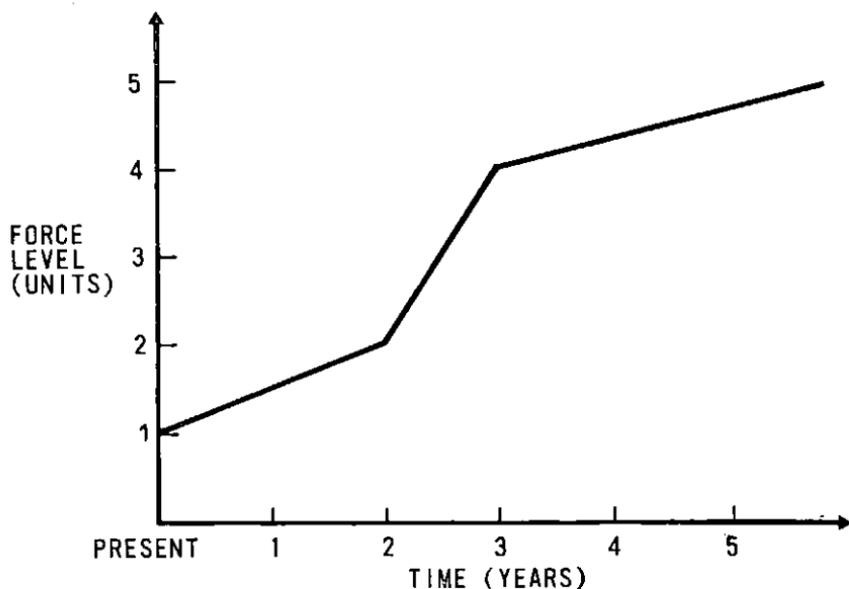


Figure 2 FORCE LEVEL-SIMPLE CASE

to them, either directly from the national economy or from external sources. Not only must the nation have a force in being, it must be able to sustain that force over the period that it may

be engaged in operations. Furthermore, it is the backing that is available that dictates the ability of the nation to expand its forces in the future, and which, more specifically, sets the limit on the possible rate and extent of such expansion.

Military capacity, either as a force for aggression or for defence, being substantially tangible can be expressed in quantitative terms. Combinations of men and equipment can be equated to force levels which can in turn be measured, at least in relative terms. Further, force levels are limited in the rate at which they can be increased with time. In the process of assessing the military capacity of a nation it is possible to make a plot of present force levels, and for a given set of circumstances, force levels in the future. A hypothetical case is illustrated in Figure 2.

The Force Level graph, as shown in Figure 2, can be used to illustrate a number of features of military capacity. Figure 3 shows a situation in which a nation has a nuclear potential that could be developed within, say, three years. In this case there is a marked discontinuity in the force level graph.

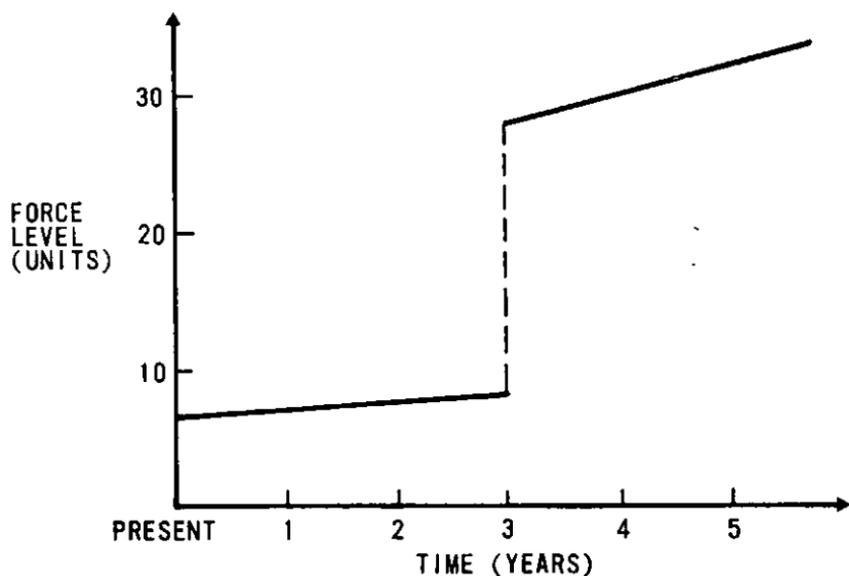


Figure 3 FORCE LEVEL-ACQUISITION OF NUCLEAR WEAPONS

Figure 4 illustrates the limiting cases of increase in military capacity with time. For any nation the upper limit of capacity is dictated by the material and manpower wealth of the nation, and the sacrifice that its people are willing to accept. Given the desire to increase capacity to the limit, it will take some time before a nation can approach this level. However, military expenditure has an inverse effect on economic growth. In a situation where military capacity is being pushed to the limit, economic growth will be negative. Hence the limit itself will decrease with time.

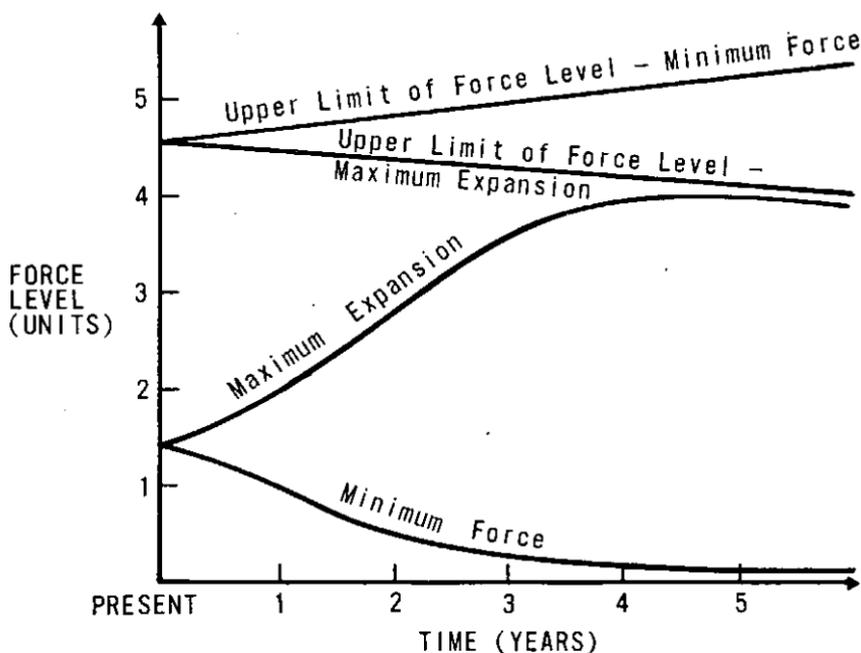


Figure 4 FORCE LEVELS - LIMITING CASES

The lower limits of capacity are dependent on the degree to which a nation may be willing to run down its military forces. With a decrease in military expenditure more resources can be devoted to economic growth. Thus, while actual military capacity may be decreasing, the potential for expansion will in fact increase.

Just as time is important in assessing force levels so is space. The force level that is of concern to the defender is not that of the potential enemy within his own territory, but the level that could be effectively brought to bear on the defender. Here the term space implies both distance and direction. Both can have a significant impact on the military problem, which in turn dictates force level requirements.

Geography is another factor bearing on the military problem of attacker and defender alike. The nature of the terrain, the presence of water barriers, the quality of communications, weather and climate must all be considered in assessing both the quantity and quality of the forces required by both attacker and defender. For example, troops trained and equipped to fight in the jungle of the tropics will be of little value in an arctic war.

The availability of allies, or potential allies, has also to be considered. In assessing the value of allies account has to be taken of their political, diplomatic, economic and military strengths, and of the degree of assurance that can be placed on their support in various circumstances.

When calculating aggregate force levels it is often difficult to add forces that operate within different environments. The force levels may have to be considered separately for land, sea and air power. This is not to say in terms of armies, navies and air forces as such. Units which operate in direct support of other arms must be counted in with the elements they support. This is particularly so in the case of an air force where these units operating in direct support of the army must be included within land power, and those supporting the navy, in sea power.

In practice, the calculation of force levels requires a detailed examination of possible military operations in the particular circumstances of the defence of the nation concerned. Subjective military judgments must be made of the relative value to be given to the various elements that make up a force and of their inter-relationship. From these weights and relationships can be developed a mathematical formula into which the numbers of each element can be inserted to give the force level figure. Thus, for example, in determining a force level for land force operations

consideration would be given to such elements as: the quality of the infantry soldier; the firepower available from supporting elements such as artillery, armoured vehicles, fighter aircraft and helicopter gunships; the degree of mobility available and the capacity of the logistic support system. Here it should be stressed that what is important is the relative rather than the absolute value obtained. The application of force level figures is in the comparison of the military capacity of two nations in the particular circumstance of aggression by one and defence by the other.

Measurement of a Threat

The threat level can be measured as the force level that the defender must counter. Furthermore, the threat level over time can be shown graphically as can the defender's own planned force levels over the same period. In Figure 5 a hypothetical threat level over a period into the future is shown. First, there is the graph of the 'best estimate', showing what is considered to be the most likely course of future events. However, as defence could well be a matter of national survival, prudence dictates that an assessment be made of the maximum likely threat. This assessment is made by taking the worst combination of reasonably possible adverse events. Here it is important to note that this is not a measure of the maximum possible threat, only the worst that a reasonably possible set of circumstances could give. An assessment of what is reasonable is a subjective judgment against which the value of the final result must itself be assessed. The minimum likely threat level is calculated on the basis of taking the best combination of reasonably possible favourable circumstances.

For any nation the seriousness of a threat, or potential threat, is a compound of many factors in addition to the likelihood and the threat level. For the immediate situation the defender's present force level *vis-a-vis* that of the enemy is paramount. In the longer term, where the threat is potential rather than immediate, relative rates of expansion and the absolute limits of military strength are more important than present relative force levels.

National Policy

Having calculated the threat, the next step is to formulate a national policy. Here the total policy to give effect to the national interest is evolved. In formulating national policy the threat to national security from external aggression must be considered along with all the other factors bearing on the national interest, factors such as: the state of the economy, future prospects for world trade, domestic political aspirations, internal security and cohesion, international obligations, and social welfare demands. From the national policy should evolve the more detailed policies to be applied in particular fields. Foreign policy, trade policy, economic policy, defence policy and the whole range of domestic policies must relate to the national policy, as well as being closely tied one with the other. Normally the statement of national policy would be in general terms while that of the other policies would be given in some detail. The formulation of a sound national policy, and its acceptance throughout the government, can do much to assist in the co-ordination of the other policies, particularly at the working level.

At the national policy level the dilemma of defence versus social welfare and national development must be faced. National development, as well as being politically and socially desirable in itself, has a significance for defence, in that the greater the economic base of the nation the greater is the potential military capability that can be developed should the need arise. Further, not only is the total capability greater, but the possible rate of increase is also enhanced.

Also at the national policy level consideration must be given to the degree of risk that will be accepted. Despite all the calculations and all the assessments, the future is still dominated by a series of unknowns. No nation can provide for its own defence with absolute certainty, particularly if its total resources are, in relation to the threat posed, limited. The greater the spending on defence, generally the less the risk, at least in the short term. But defence expenditure represents a real cost in reduced development, lesser economic progress and sooner or later a lowering of the rate of improvement in living standards. Thus, unless all

progress is to be foregone, some risk in defence preparedness must be taken.

Defence Policy

Defence policy is that part of national policy dealing with the protection of the national interest against a threat by hostile military action. As such, defence policy is not concerned exclusively with the military forces of a nation. It has both constraints placed upon it by the more basic aspects of national policy, such as economic policy, and in turn places constraints on other areas such as foreign policy. Defence policy, in general, should follow two lines.

The first line of policy is to devise ways and means of reducing the level of hostile intention shown by the potential aggressor. This will encompass both military and non-military means. The development by the defender of a strong military force may deter the potential aggressor. Suitable trade and economic aid policies may develop economic ties that bind the potential aggressor to the defender, or enable the potential aggressor to achieve his national aims without aggression. Diplomacy can also be a powerful force both to directly influence the potential aggressor and to enlist the aid of allies. In general, as this aspect of defence policy is largely non-military in nature, its execution will fall, in the main, to areas of government administration outside the defence department.

The second line of policy is to develop the necessary military capacity to be able to physically defend the national interest against any aggression. The execution of this aspect of defence policy will be the main task of the defence department.

The determination of the force level required to meet a threat depends on the force level that the aggressor may bring to bear to achieve his particular purpose. If aggression is imminent, both sides have to go to battle with the forces in being. If aggression is only a possibility for the future, time will be available to adjust one's own forces to the required level. In such a case it is unnecessary to retain in being a force that is equal to that which may be required at some future time. A force that is scaled down

by the warning time and the possible rate of expansion will cost less to maintain, thus allowing for a greater expenditure on national development, and yet still give a satisfactory degree of security.

The threat level graph, as shown in Figure 5, can be used to assist in the determination of the required force level. Against the threat level of the potential aggressor should be plotted the defender's present force level. Then a series of graphs can be plotted showing variations in force level over future time that can

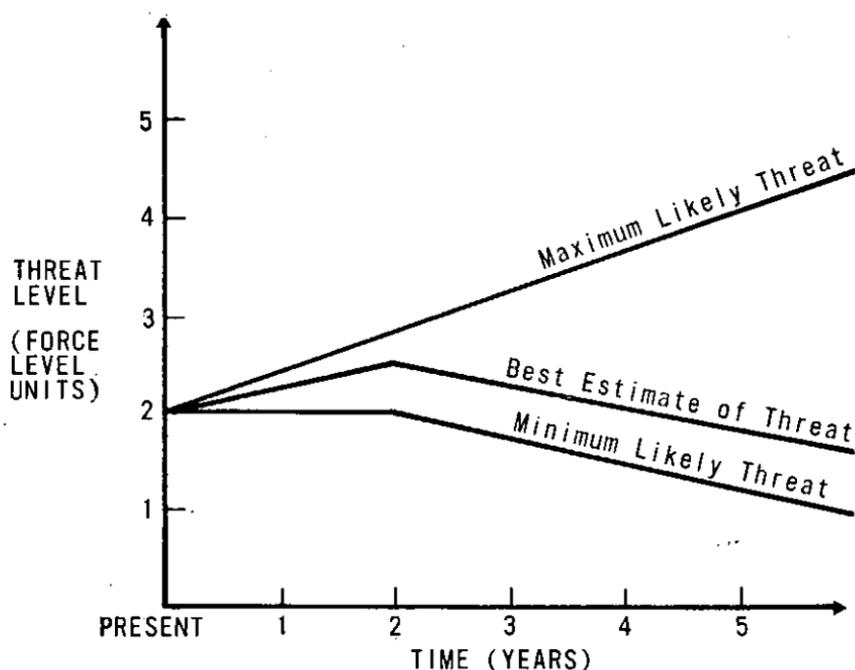


Figure 5 THREAT LEVEL - BEST PREDICTION AND LIMITS

be achieved in various circumstances. Figure 6 shows, against the threat level, a set of own force levels for various amounts of defence expenditure, expressed as a percentage of the gross national product. Another set of graphs may, for example, depict the impact of varying levels of assistance by an ally, or allies.

Force level graphs will not in themselves select a defence policy. Rather they show, against the background of the possible threat, the implications in terms of military capacity of a series of alternative courses of action. The final selection of one particular course must also take into account those aspects not covered in the force level graphs, aspects such as, for example, the acceptable degree of risk, and the degree of assurance to be placed on support from allies. The value of the force level graphs themselves must also be assessed by taking account of the assumptions made during their construction.

When looking at the future the defender should, ideally, aim for a force level that will ensure that he has at least the potential to match the maximum likely threat level posed by the potential aggressor. Here the key factor is the rate at which force levels can be increased. For rapid expansion a sound base is required both for manpower and equipment. Sophisticated military equipment can give greater firepower per man, but it takes time to procure. Rarely is military equipment manufactured before a firm order has been placed, thus making 'off the shelf' immediate purchase out of the question.

Trained military manpower is also a commodity that cannot be expanded too rapidly. In particular, military leadership takes time to develop, as do the technical skills required to operate and maintain modern sophisticated equipment. Neither the military leadership or the special technical skills are readily available from within the community at large. Rather, they must be trained and developed within the military organization so that they are available when required.

The composition of a military force that is intended as a basis for expansion is markedly different from one that is geared for immediate operations. The former would be top heavy in officers, equipment and special skills, with the emphasis on those areas requiring a long lead time. In all areas the maintenance of expertise would take precedence over current fighting efficiency. In times of expansion, the force would be organized to meet a training rather than an operational commitment. Where part of the force is required to meet, say, a low level immediate threat while the remainder is intended as a basis for expansion to meet

a larger but more distant threat, care must be taken to avoid placing undue emphasis on the immediate threat. Provision of a force level beyond that which is necessary to give a reasonable level of security is a waste of resources and hence is unlikely to be in the national interest.

Politics and Defence

The relative weight to be given to the political and military inputs to defence policy is often a subject of controversy. While defence is concerned with the protection of the national interest by both military and non-military means, and hence requires both political and military judgment, the fundamental question is that

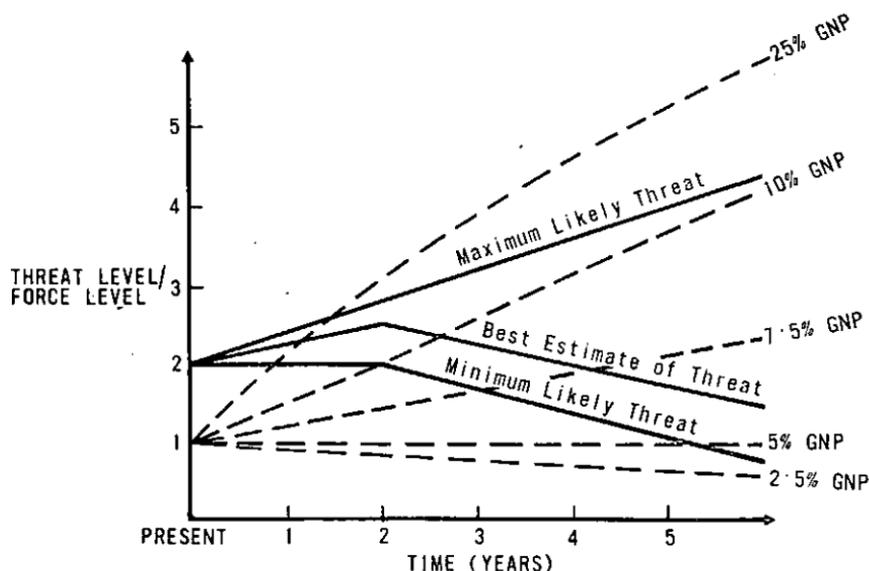


Figure 6 FORCE LEVEL AGAINST ASSESSED THREAT - VARYING DEFENCE EXPENDITURE

of the national interest itself, and this is a political matter. To say that defence is essentially a political activity does not mean that the military problem is of no concern. Military requirements must be evaluated along with the political, but with the choice in cases of conflict resting with the person with the ultimate re-

sponsibility, the political leader. When, however, the threat level is low, military requirements will tend to be given a lower priority than in times of high threat.

For every nation its defence policy is unique. This is not to say that a common line of reasoning cannot be applied to at least set the scene against which policy can be considered and alternatives tested. The facts must be clearly established before value judgments are applied, even though some of these 'facts' may be somewhat tenuous assessments of the likely turn of future events. Care must be taken to ensure that the weights given to these assessments are based on reasoned judgment and not on what is politically palatable. To this end the assessment must clearly precede the formulation of policy.

Summary

Defence policy should be developed in sequence from the national interest, through an assessment of the threat, to an overall national policy of which the defence policy is but a part. The national interest is concerned with both survival and progress, with defence being concerned primarily with survival. The threat to the national interest posed by hostile military forces should be assessed as to the elements of intention and capacity, taken both separately and in conjunction, over future time. When presented, the threat assessment should show both the maximum and the most likely cases.

Despite its essentially political nature, defence policy must also reflect sound military judgment. The overall policy should aim at reducing the hostile intention as well as the build-up of defence forces. Force levels should be kept to a minimum consistent with national security, with account being taken of the warning time available and the potential for expansion.

Conclusion

Because of the range of subjects covered, the cost, the uncertainties and the emotional content, the formulation of defence policy is a complex process. But, despite the complexities, it is

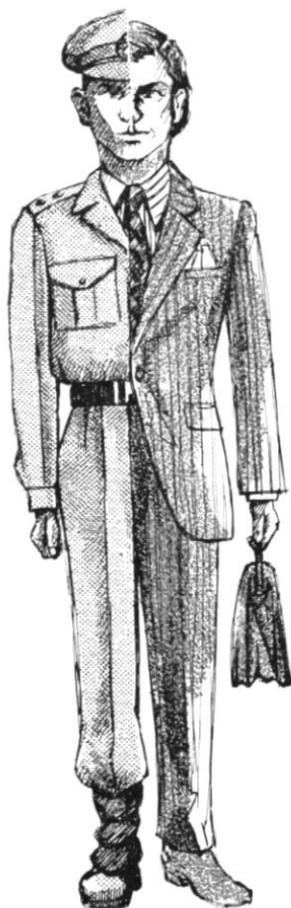
a process that can be subjected to logical analysis. Some aspects are amenable to mathematical treatment, while others are limited to examination by subjective judgment. Where such subjective judgment is applied sound results can be achieved only by eliminating the emotional and the irrational.

Defence is concerned with the ultimate survival of the nation. To this extent it must be adequate. Defence is also a significant economic charge against the nation. To this extent it must be no more than adequate. Thus defence is a balance. To achieve this balance requires a defence policy that is based on careful analysis rather than subjective political judgment alone. □

BETWEEN THE WARS

There was in Australia no organized group to press for more effective military defence, nor any journal in which military and naval problems were discussed with authority. In his first report, in 1921, Chauvel had urged the re-establishment of the *Commonwealth Military Journal* which had been published from 1911 to 1915 and to which officers of permanent and citizen forces had been 'cordially invited' to contribute. Nothing came of this suggestion and, with one small exception, no military journal existed in Australia between the wars. To the extent that they thus failed to establish an adequate channel of communication with the people at large, the officer corps, both professional and amateur, must share, with the political leaders and the Press, the responsibility for neglect of the army. In the Staff Corps and militia were men who had something to say and knew how to say it, but their writings were to be seen in British journals, chiefly in the *Army Quarterly* which was read in Australia almost solely by officers of their own Services. Criticism was discouraged by political leaders and their attitude affected the senior officers of the Services, and seeped downwards. As far as the Staff Corps was concerned the truth was that its members' otherwise outstanding education had included no instruction in what came later to be called 'public relations', and their subsequent careers travelled in a narrow professional groove. The low pay helped to prevent them from taking their proper place in social life outside the army and the corps became isolated to an extent that was exceedingly inappropriate in a group which was administering a citizen army. A fully-justified resentment of the parsimonious treatment they had received from governments developed into mistrust of the political leaders who decided the policy they had to administer, and of the Press which alone could educate the public in the principles of defence. In justice it must be said that the mistrust was reciprocated.

—Gavin Long, *To Benghazi* (1952).



An Army Career .. Is It Worthwhile ?

*Lieutenant Colonel W. A. Piper
Royal Australian Infantry*

Introduction

‘THE morale of Australia’s regular Army is at its lowest since the end of World War II.’¹ While many would dispute Alan Trengrove’s statement, there is no argument that officer resignations are increasing.

¹ Alan Trengrove, *The Sun*, Melbourne, 18 January 1971.

The increased number of resignations is indicative of dissatisfaction within the service, and the reduced number of Duntroon graduates (only 30 Australians in 1970) indicates that the army is not only losing good officers, but is failing to attract sufficient young men of the desired calibre.

Each of us has his own theory as to why an army career is becoming less popular and, although there is a pervasive feeling of inadequate pay and allowances, there are other more deeply seated reasons.

In an endeavour to determine the basic causes of dissatisfaction this article examines the factors which make a career attractive, or unattractive, and compares the army with civilian organizations which are competitors with the army for personnel talent. As a result of the analysis and comparison, suggestions are made for improving the army as a career.

The Requirements of a Satisfying Career

In any career there are favourable and unfavourable aspects. Considerable research into this matter has produced a number of theories attempting to explain man's reaction to his employment. The two most popular theories are: (a) Herzberg's theory of Satisfiers and Dissatisfiers, and (b) Maslow's, 'Hierarchy of Needs' (1943).

Some idea of the content of these theories helps in understanding what a man looks for in a career and indicates where improvements may be made in the army.

Herzberg's Theory. Herzberg states that a man's attitude towards his work is affected by two sets of variables. One of these he called the 'dissatisfiers'. These are the man's general working conditions, his pay and allowances, the company's poli-

After graduating from Duntroon in 1954, Lt Col Piper served as a platoon commander with 2 RAR in Malaya 1955-57. On returning to Australia his postings included staff appointments on HQ Western Command and with QUR, and regimental duty with 3 RAR and 2 RAR. After staff college in 1965 he was posted as GSO2 HQ 1 TF and in Vietnam served as an assistant plans officer at HQ 2nd Field Force (US) and GSO2 (Int) HQ 1 ATF. Since then he has been an instructor at JTC, attended the USMC Command and Staff College, Quantico, and was CI at 1 RTB. He has recently assumed duty at AHQ as an AAG.

cies and attitude towards its employees. If these are unfavourable they cause dissatisfaction and resignations are likely. Continued improvements in these fields need not, however, produce a happy and satisfied work force. This can only result when the other variables, or 'satisfiers', are present. Opportunities for promotion, responsibility, sense of achievement and personal recognition are the satisfiers, and if present in a career many men will continue to work happily despite numerous 'dissatisfiers'.

Maslow's Theory. According to the Maslow theory, a man's needs can be classified into an hierarchy or ascending order. The first of these are the 'Physiological Needs' such as food and water and other basic necessities which, in our society, are so freely available as not to seriously affect a man's choice of profession.

The second in Maslow's hierarchy is the 'Safety Need'. When man's physiological needs are fairly well satisfied his next concern is with protection for himself and his family. In terms of his employment this means some guarantee of continued employment, and benefits such as sick leave and retirement pension.

'Social Needs' are the next in the hierarchy. In this regard the employer should provide a man with a feeling of belonging, and opportunity for social contact with his peers.

The two highest needs in this ascending list are 'Ego' and 'Self-Fulfilment'. These needs are frequently not satisfied. Ego needs are the man's desire to have a high evaluation of himself and the need to feel that others recognize his position and achievement. 'Self-Fulfilment' is the desire in man to achieve his full potential, or to achieve some goal merely for the delight and satisfaction of showing that he is capable of attaining it.

The similarity between the theories of Herzberg and Maslow is apparent and in terms of a man's employment each of Maslow's needs could be classified as a 'satisfier' or 'dissatisfier' as explained by Herzberg.

The Army as a Career

As we have already seen, man's physiological needs are fairly well satisfied in our society and do not seriously affect his choice of profession. But what of the other needs, the other

satisfiers and dissatisfiers; how well does the army meet these requirements?

Safety Needs. In many respects the army does not satisfy the individual's safety needs and this has become a major source of discontent. High on the list as a source of discontent is family upheaval, including the problems associated with education, temporary or inadequate housing, and separation due to war service overseas, but an additional cause of worry is the constant fear, particularly amongst captains and majors, of the possibility of early retirement.

A career which guarantees employment only to the age of 47 can hardly be called a secure career, and because of this early retirement hardly qualifies as a career.

This fear impinges strongly on the safety needs and is aggravated by three facts. First, the retirement usually coincides with the period of heaviest financial commitments and family responsibilities. Second, at 47 or 50 years of age, the retired officer's training and experience is not a readily saleable commodity in the civilian market. Third, the forced retirement usually involves a drop in status and by comparison occurs at the age when most civilians are reaching the peak in their careers. These facts are well known to the civilian community, and students considering a military career are usually counselled on this aspect by their school principals. This disadvantage is further aggravated by the fact that it is often difficult for a young officer to evaluate and compare his performance with his contemporaries and he can, therefore, only imprecisely gauge his promotional prospects.

On the credit side, the army recognizes many of an individual's safety needs and provides, for instance, pensions and free medical and hospital services, but in some respects even these 'benefits' cause dissatisfaction and certainly do not make a military career any more attractive than most civilian alternatives.

Social Needs. Man's social need, that is, the feeling of belonging and the opportunity to mix socially with peers, is well catered for in the army and in this regard an army career compares favourably with civilian alternatives. All commanders actively foster team work within their organizations and the extent

to which they are successful largely determines whether or not officers' social needs are satisfied. In addition, the opportunity for officers to mix socially with their peers is readily available through the army system of messes and this helps to satisfy the social need, although constant reposting can have damaging effects on the officer and his family.

Ego Needs. The army rank system provides all officers with some ego satisfaction. Regardless of how junior the officer, he always has subordinates, and in fact the more junior he is the more likely he is to be serving with troops where his rank and leadership position combine to give him elevated status, and thus satisfy his ego needs.

Unfortunately, many of our officers spend long periods in postings where they seldom have contact with troops. In this environment there is almost complete dependence upon promotion to satisfy ego needs, and in this regard the present system is only partially successful. This is because it is not until the officer is at least 35 years old (that is, until promotion to lieutenant-colonel) that the army uses its rank structure as a means of recognizing good performance.

Even average officers can be disappointed by seeing obviously poor performers promoted to major at the same time as themselves and, when this occurs, the significance of their own achievement is diminished and their ego suffers.

In the civilian world, success is gauged largely by salary differentials and by the display of affluence in the form of automobiles and housing. In this field the army officer sees himself at a disadvantage when compared to his civilian contemporaries. As a result his ego suffers and regardless of his rank he becomes dissatisfied with his military career.

Also from time to time, as the army's popularity with the nation rises and falls, so does the officers' ego. It can be seen therefore that the ego needs will only be marginally satisfied in a military career, and although higher rank provides some satisfaction, its full potential as an ego satisfier is not realized because of the emphasis given to years of service, as opposed to ability.

In the affluent world of today, the army officer sees himself in an inferior position compared with his civilian contemporaries.

Self-Fulfilment. The army provides self-fulfilment through the many opportunities to assume responsibility and to accept challenging situations. Leadership, and the promise of leadership at higher levels of command also provide self-fulfilment. It is this, more than anything else, which provides the attraction of an army career.

There are however many postings in which officers' talents and abilities are not fully utilized. This causes frustration and dissatisfaction. The best officers also feel that above average ability is not recognized early enough, and that the normal rate of promotion prevents above average officers from satisfying their self-fulfilment needs in the same way that it fails to satisfy the ego needs. It is this factor more than any other which is responsible for the resignation of the better officers; officers whom the army can least afford to lose.

Summary. An army career embraces many dissatisfiers and fails in many respects to provide adequate satisfaction. The dissatisfiers must obviously be removed. Unfortunately, many of these involve finance and require government or treasury action. One can only hope that the Kerr Committee will produce appropriate recommendations and that these are presented to the government at a time when they are likely to receive favourable consideration.

There are however a number of deficiencies, such as promotions and retirement plans which could be classified collectively as inadequacies in career planning. In this regard how does the army compare with civilian organizations? Are our methods current, or are they outdated, and can they be improved? These questions will be examined in the following section.

Career Planning in Civilian Organizations

Most civilian enterprises recognize that the success of their business depends primarily upon the quality of their management. A crucial question for these organizations therefore is how and when are potential top executives identified?

Selection of Potential Executives

Who to Select. A survey of some recent writings on personnel management reveals that decisions on whom to promote are generally based on three factors: (a) the candidate's background; (b) his previous performance; (c) his potential.

- (a) A candidate's background includes such matters as his intelligence, his education, his experience, age and health. An assessment of these factors alone will frequently indicate which members of an organization should be considered for promotion.
- (b) Although previous success or achievement in an organization is no guarantee of success at a higher level, this is still the best guide available and remains the principal means of identifying future top executives. In assessing previous performance, notice is generally taken of a number of factors. The first factor to be considered is the candidate's general performance, when an assessment is made as to whether he usually gets the job done well. Notice is also taken of how the candidate performed in previous difficult assignments, particularly those involving stresses of time or emotion pressure. Success in controlling subordinates is important, as is his effectiveness in their selection and development. Other matters which are commonly considered are ability to get on with people and evidence of loyalty and dedication.
- (c) Some organizations endeavour to assess the candidate's potential regardless of his previous performance. This assessment can, however, only be made by an examination of his past and is likely to be imprecise. It also requires an assessment of the desirable characteristics of a top executive, or of various types of executive, and then requires an assessment of the personality or behavioural traits exhibited by the candidate. This third method of selection is considered the least accurate; personnel managers believe that the best result is likely to be achieved by a combination of the three alternatives, with current performance being the best indicator.

When to Select. Although there is disagreement about the best means of identifying future leaders, there is complete agreement that they should be identified as early as possible. Unfortunately, a problem arises because candidates require time in which to develop and demonstrate their ability, and although there is a wide variation in the time considered necessary, leading civilian organizations endeavour to make their identifications between the sixth and tenth years of performance. The variation depends upon the system of selection, the managers involved and upon the individual.

The more successful organizations also realize that the selection of future executives is in many respects a matter of opinion and that a better decision will result if several opinions are obtained through a selection committee. In this method of selection, the committee is given the responsibility of evaluating all the data available and their combined judgment selects those individuals considered to have the greatest potential.

Retention Problems. Irrespective of the method of selection, experience indicates that there will inevitably be resentment by some ambitious candidates who are not selected. No perfect solution to this problem has been found but the adverse effects can be minimized.

In the first place, personnel managers believe that a man's contemporaries are usually able to recognize achievement and expect the more capable to be advanced or promoted more rapidly. Resentment may be present, but providing the door to the top is open to all, and superior performance is the only entry requirement, then the adverse effects will not be great.

Disappointment to the ambitious but average executive is also reduced by giving him early advice on his career prospects. This not only eliminates several years of nervous apprehension but helps satisfy the safety needs of all candidates who frequently cannot evaluate their own performance.

Despite these precautions, personnel managers admit there is still a danger of a passed-over executive being tempted to resign. Because the employee usually represents many years of skill, training and experience, considerable effort is devoted to

retaining his services. Research has shown that, above all else, the man's ego must be preserved and positive action can be taken in this regard. Embarrassment can be avoided by not having him work closely with his more successful competitors, and a transfer to a more attractive location can significantly reduce the immediate damage to his pride and will frequently result in his retention. Managers generally agree, however, that contracts and other devices to bind dissatisfied executives are more damaging to the organization than the resignations which they aim to prevent.

Obviously there is not complete agreement in the civilian world on personnel management but this brief outline provides a good summary of the latest selection, promotion and retention policies. By comparison, what are the strengths and weaknesses of the army system?

Career Planning in the Army

Strengths of the Present System

Personnel Evaluation. The army system of confidential reporting, and selection for promotion by committee, compares favourably with those systems being employed in the civilian community. Although containing minor weaknesses, the report clearly evaluates an officer's present performance, and by listing desirable characteristics of army leaders, attempts to predict future performances. Background data on officers is readily available and is also considered by those committees. This system is thorough, and one seldom hears criticism of the promotion and selection committees, although any system which attempts to predict future human performance will be inaccurate and mistakes inevitable.

Compulsory Retirement. The army adopted a very progressive personnel management policy when the compulsory early retirement of field grade officers was introduced after World War II. There can be no doubt that this policy has cleared out those middle level managers who are clearly not potential top executives. This has opened the door to earlier promotions and has provided youth and vitality in the top level ranks. It has also provided at least adequate promotion through the junior ranks.

The policy does, of course, have its disadvantages, which are discussed later.

Guaranteed Promotion. An additional advantage of an army career is the virtual guaranteed promotion of all officers to the rank of major. This provides a degree of security which is matched by only a very few organizations. This guarantee was undoubtedly a necessary step to compensate for the possibility of compulsory early retirement and provides some measure of security for a below average officer, who under a more competitive system may not reach that rank.

Identification of Top Executives. Since competitive selection for promotion is not made until lieutenant-colonel, then the performance of the candidate has been observed over a long period. This greatly reduces the possibility of error and the selections are inevitably much more accurate than those made by civilian organizations allowing only six or ten years. The army policy could, however, be deemed to be over cautious.

These advantages show that the army selection system leaves little margin for error and by compulsory early retirement aims to provide youthful and vigorous leaders at the top level.

Weaknesses in the Present system

Insecurity. The main weakness in the present system is the insecurity associated with possible early retirement. This insecurity is aggravated by a number of other factors. The first is that despite the confidential report there is poor indication to an officer of relative performance. He is forced therefore to guess at his standing and cannot make a well-founded decision as to his prospects. The lack of knowledge about career prospects also has other serious implications.

Inadequate Recognition. After ten or more years service the best officers are promoted to major at the same time as their below average contemporaries. While this is comforting to the ego of the average or below average officer, it fails to satisfy the better performer and adds to his frustration. In addition, this failure to reward the superior performance by more rapid promotion means that some officers are functioning in ranks and

jobs below their capabilities. This adds to their dissatisfaction, and means that the army is not obtaining the maximum benefit from their service. Since rank is the most obvious way in which superior performance is recognized in the army, it is obviously inefficient to wait fifteen or more years before formally recognizing above average ability. To the extent that this weakness contributes to resignations by good officers, it causes losses which the army cannot afford. Furthermore, these officers are the ones most sought by industry and commerce, and the number of resignations from the group is likely to increase if the present 'locking-in' aspects of the Defence Forces Retirement Benefit Act are liberalized.

Improving Army Career Management

There are many possible ways in which the present weaknesses may be overcome, but only the main alternatives are discussed.

Retirements. The first essential is to raise the normal age for retirement of junior officers to at least 55 years. This action would regularize the current procedure of retaining officers beyond the normal retiring age and would greatly improve the security aspects of an army career. Retaining experienced officers instead of retiring them prematurely should not only increase the number of officers but should improve efficiency.

Some readers will be quick to remark that raising the retiring age in this manner creates other problems. It may cause an excessive increase in the number of officers and it would tend to block promotion channels which already are not very liberal. These difficulties can be overcome and are discussed below.

The world military situation is constantly changing, and the size of the army is fluctuating in response to the changing situation. The army manpower planners, realizing this, should implement as part of the career planning a flexible system which will meet the variations in supply and demand, and at the same time satisfy the individual's security needs.

As a first step the army could establish a committee, something similar to the present selection committees, with the task of

determining whether officers should continue serving or whether they should be retired. This committee, named, say, a 'Continuation Committee', would need to be aware of the army's requirements for officers and would retain only those who were continuing to serve satisfactorily and who wished to serve. Those officers being separated from the service, either through their own desire or to meet the needs of the service, would have to be adequately compensated. Separation allowances and possibly resettlement education would provide the compensation which would make this policy acceptable. Separation allowances would need to recognize that an officer cannot give up his job without giving up his profession and that a second start, later in life, inevitably involves tremendous difficulties, especially for those not seeking or desiring the change. Whilst major changes in this field appear to be necessary, simply liberalizing the Defence Forces Retirement Benefit provisions with regard to pensions may be all that is required.

In any case, the present binding aspects of the current Defence Forces Retirement Benefit legislation must be removed and efficient officers permitted to serve, or to resign, without suffering financial hardship.

Promotions. Army career planning would also be improved by adopting a more flexible policy of promotion to major and lieutenant-colonel. As stated earlier, an executive's effectiveness can be fairly well gauged after six to ten years performance. At the promotion to major level it should therefore be possible to identify the top performers and the below average performers. In fact, not to do so at this stage is inefficient and can have the deleterious effects discussed earlier.

Not wishing to make too early a decision or to accentuate minor differences at this stage it should be possible, after five years service as a captain, to select a small group, say ten or fifteen per cent, for accelerated promotion to major. In the following year the bulk of the remainder would be promoted, but another small group delayed for twelve months, and possibly some of the latter group would not be promoted at all. Something similar to this system is already in operation in the selection for lieutenant-colonel, but extending the system down to the major

level provides a number of advantages. First, there is the earlier recognition of the best officers who will be less tempted to leave the service. Second, there is the very important consideration of providing adequate recognition to the bulk of good serving officers who currently see the idle and inefficient advancing at the same rate as themselves. Third, there is an opportunity for the slower officers to develop more gradually. Fourth, such action would assist in restoring prestige and status to the rank of major.

While the system for promotion to lieutenant-colonel is already along these lines it should be taken further. At this stage, after fifteen or more years service, an accurate appraisal of an officer's potential is possible and the inevitable inequalities should be recognized. One way to do this would be to promote the top five per cent of a year group up to two years before the normal, and the next group, of say ten per cent, could be promoted a year before the normal. Again, the slower developing officer would be promoted at a slower rate, which would not only satisfy his personal expectations, but allow him to reach his ceiling later in life and thus cause less frustration at the end of his career. This suggestion is not revolutionary. After fifteen years the most efficient officer will have gained only three years seniority over the average; this would be considered very conservative by modern management standards.

Earlier selection for promotion to major and lieutenant-colonel would be facilitated if greater use was made of the flexibility inherent in the army postings system. In fact, more flexibility should be implemented as a policy.

Currently, it is the *time* which an officer has spent in a job which largely determines whether he is due for reposting. This consideration works well for the average officer but takes little notice of the disparity between officers. The demonstrated ability to perform satisfactorily, along with time, should determine whether or not an officer is reposted. A policy of this nature would allow each individual to develop as rapidly — or as slowly as his ability warrants, and later in his career would simplify 'identification' by selection boards. A change as suggested would demand the annual confidential reporting system be modified.

More frequent reports may be necessary and other changes desirable, but confidential reporting is not the subject of this essay.

More rapid promotions as suggested would produce field force officers younger than at present, and would produce them without the premature retirement of good experienced middle grade officers.

Even the present slow promotion policies and careful selection procedures are criticized by resentful officers who have failed to be selected. Resentment and criticism can be reduced in the ways outlined earlier, but in addition the army should take greater steps to educate its officers in both their career prospects and the promotion and selection procedures. This is particularly important when any new procedures are implemented.

Whatever policies are adopted to ensure adequate career opportunities it is clear that the army should retain a pool of officers trained in the latest personnel management techniques. These officers should strive to keep abreast of the latest ideas and theories, and could help ensure that conditions within the service were comparable with those in the civilian community.

Conclusion

Although the army procedures for selection and promotion are amongst the best in the world, the army as a career has many disadvantages. These are primarily over-protection of the average and below average officer, while simultaneously providing him with poor long term security. Inadequate communication to the individual of his comparative rating is another major weakness. It causes frustration in the good officers and apprehension in the average performer who is facing the possibility of early retirement.

Career planning should be improved and this article has suggested some possible methods. There are undoubtedly others. The need is to produce a career plan which offers:

- Attractive long-range personnel development with a predictable opportunity for promotion.

- An advancement system with early recognition of ability.
- Reasonable security for the average and below average officer.

Finally, notice must be taken of the fact that the army is not able to acquire executives from the civilian market. It must, therefore, do more than civilian organizations to retain its best material. □

WATERLOO, JUNE 1815

The last scene of the battle had been reached, and it was memorable enough; it redounded chiefly to the glory of the French Army, and it was fought out near de Coster's house. Here, waiting in squares, stood the two battalions of the 1st Grenadiers of the Guard, under General Petit — probably the finest troops in Europe. In the centre of the 1st Battalion was the Emperor himself. It was with these living ramparts that Napoleon designed to cover the disorganized flight of the Grand Army, and to save them from the horrors of close pursuit. A 12-pounder battery of the Guard Artillery was brought into action on the prolongation of the squares; but it possessed only one round per gun. As the pursuing cavalry closed, a last volley of grape-shot pealed from the mouths of the guns; and then the gunners, standing clamly beside their empty pieces, were sabred where they stood. But the squares standing firm withstood all charges. The attacks had no more effect on them than have handfuls of sand when they are blown against the granite pyramids of Egypt. The two squares of picked troops defied all efforts to break them, and they stood alone — two battalions confronting two armies!

For even Lobau's defences were down, and the Prussians had driven the defenders out from the ruins of the blazing village of Plancenoit, and pursuers and pursued debouched pell-mell on to the Charleroi highway. In self-defence the Grenadiers had to clear their faces with fire, lest foes should enter the two citadels with the friends who sought refuge therein. General Petit's Grenadiers stood firm despite the awful ruin around; but at length the Emperor ordered them to fall back, and slowly these war-torn veterans yielded ground. In perfect order they drew off, halting continually to rectify their fire and arrest the pursuit by effective enfilading fire. Thus the Old Guard showed that it was worthy of itself — and of France.

—Captain A. F. Becke, *Napoleon and Waterloo*, Vol. II (London, 1924).

BOOK REVIEWS



IN THIS SIGN CONQUER, the Story of the Army Chaplains, by Brigadier The Rt. Hon. Sir John Smyth, Bt., VC, MC. A. R. Mowbray and Co. Ltd., London, 1968 (\$8.40), pp. 362, illustrated.

Reviewed by Major A. R. Howes, RAASC, Army Design Establishment, Melbourne.



Commanding Officers are therefore to direct attention of all ranks to the importance of religion . . . (MBI 240-2).

WHERE shall a Commanding Officer or OC turn for a book comparable with famous military history texts in illustrating the importance of religion? Here is such a book.

This is the first and only history which has ever been written of the Royal Army Chaplains' Department. Sir John Smyth undertook this great task at the personal request of the Chaplain-General of the British Army, The Ven. Archdeacon J. R. Youens, OBE, MC, QHC, and with his fullest support. The book is not just a history of the Chaplains' Department of Britain; it is almost a history of the British Army itself. But primarily it is the story of the men — the chaplains — who made the department into a living entity by their service and sacrifice.

From the very early days of English history the State, the Church and the Army have been closely related, one affecting the other to a greater or lesser degree as times and circumstances changed.

With the issue of the Royal Warrant of 23 September 1796, and the appointment of the first Chaplain-General, the Army Chaplains' Department may be said to have officially started. But it had antecedents which must, in outline, form an essential part of a comprehensive narrative. Today the Royal Army Chaplains' Department has the closest relationship with the Chaplaincy Services of the Canadian, Australian and New Zealand Armies, which are all affiliated to the British Department and have the same badges of rank, crest and so forth. And it also has the closest links with the United States Corps of Chaplains. So the subject is a vast one, comprising all the British religious denominations.

Throughout our history most of our great generals have realized the importance of religion to the morale of men in battle. This book is a worthy tribute to the chaplains who lived their faith with the troops and in many cases gave their lives in so doing.

Sir John Smyth commanded a brigade at Dunkirk and a division against the Japanese in Burma; he was a Conservative MP from 1950 to 1966, and held ministerial appointments in two governments.

Smyth dedicates his book:

To all Army Chaplains who throughout our history — in the day of battle and in time of peace — have served the British Soldier and in proud remembrance of those who joined so many of their comrades in the supreme sacrifice.

It includes a chapter on the 'Dominion Chaplains in World War Two', and three pages (pp. 279-81) give a brief resumé of the organization and administration of the then A.A.Ch.D. The Australian Army and its chaplains are described in the sections dealing with the Boer War, World War One and, in particular, the chapter 'Second World War — Eastern Theatre'.

We follow the 'lords spiritual' on their medieval battlefields, the service of the Army Chaplains developing within Crom-

well's Model Army in 1642, and the establishment of the Army Chaplains' Department by Royal Warrant of King George III on 23 September 1796. The qualifications laid down at this time for the appointment of chaplains seem still appropriate for the present: 'zeal in his profession and good sense; gentle manners; a distinctive and impressive manner of reading Divine Service; a firm constitution of body as well as of mind'.

The Army Chaplains' Department was exclusively Church of England until 1827 when Presbyterians were admitted. The position of Roman Catholic chaplains was regularized in 1859 and in 1862 admission was granted to those known as 'Other Protestants'.

This book's chapters on The Crimean War, the Indian Mutiny precede a chapter on Small Wars of the Nineteenth Century. Apart from the Boer War and the two wars just mentioned, there were twenty-nine smaller wars in the second half of the nineteenth century in which Britain was engaged — including the China, Afghan and Zulu wars. In all of them Sir John Smyth traces the work of the chaplains and their relationship with the men and their officers.

The book recounts inspiring stories about chaplains. In World War One there were G. A. Studdert-Kennedy, MC (commonly known to the troops as 'Woodbine Willie') and Tubby Clayton of Toc H — both temporary chaplains. The Padre VCs — E. N. Mellish, W. R. F. Addison, and T. B. Hardy, who received a DSO and MC as well. 1939-45 saw a world-wide spread of chaplains with the forces, many of whom endured prisoner-of-war camps with their troops.

The American custom of wearing a silver cross in the points of their collars was unofficially adopted by British chaplains in Korea, and quickly gained approval. We read how Colonel Carne, the Gloucesters' commanding officer, before his own departure into long and bitter solitary confinement by the North Koreans:

. . . arduously carved with two large nails and a primitive hammer a . . . Cornish cross in stone which, after its dedication by the Padre, the prisoners continued to use at all religious services they were able to have . . . Its making and its use seemed to symbolize both the effort and the victory of the religious struggle in the Chinese Communist prison camps in North Korea.

Much can be learnt from the following incident recounted on page 175.

In 1916 an encounter had taken place between Studdert-Kennedy and a certain Theodore Bayley Hardy — afterwards the Rev. T. B. Hardy VC, DSO, MC, the most decorated of all the wartime chaplains. 'I remember the conversation very well,' S-K wrote. 'It took place in the Assistant Chaplain-General's office at Etaples. Hardy asked me to tell him the best way of working. I said, 'Live with the men, go everywhere they go. Make up your mind you will share all their risks, and more, if you can do any good. The line is the key to the whole business. Work in the very front and they will listen to you; but if you stay behind, you're wasting your time. Men will forgive you anything but lack of courage and devotion.'

'I remember walking up and down saying this very fiercely because I was full of it. He took it so humbly and eagerly that I was ashamed of myself — and loved him. I said that the more padres died in battle doing Christian deeds the better; most of us would be more useful dead than alive. He asked me about purely spiritual works. I said, "There is very little; it is all muddled and mixed. Take a box of fags in your haversack and a great deal of love in your heart and go up to them; laugh with them, joke with them. You can pray with them sometimes; but pray for them always!" I felt he would be able to do it all much better than I, because he had the power that belongs to saints, and I was such an ordinary man. I told him some yarns and we both laughed over them. We shook hands. I have never seen him since. If I did influence him, it is just another instance of the queer instruments God can use.'

Two years later, just before his death in action, Hardy had written to the Assistant Chaplain-General thanking him humbly for certain kind words about his VC and saying: 'Are you likely to meet Studdert-Kennedy soon? If so will you tell him that I have often wished I could thank him properly for that hour in your office which, more than any other in my life, has helped me in this work. You can understand how I feel about these ribbons when I think of him.'

Senior Chaplain John Hughes ED, in his February 1971 *Army Journal* article, 'The Chaplain in the Service of the Soldier' broke a virtual drought of articles dealing with religion. Surely others can write of the relevance of religion today.

Apart from MBIs and the three periods allotted to religion in the Staff College year, what else exists in writing to guide COs and OCs? We have the admonition of AMR&O 323(1):

The personal qualities of character, which demand a high standard of conduct, and which inspire courage and self-sacrifice in a crisis, can be developed by religious faith.

But far more personal is the approach of Field Marshal Sir William Slim in his book *Defeat into Victory* (Cassell, 1956). The following extracts from pages 182-3 are most relevant:

When I took command (of the XIVth Army) I sat quietly down to work out this business of morale. The essence of morale is that it should endure — have certain foundations. These foundations are spiritual, intellectual, and material, and that is the order of their importance.

Slim continues:

Spiritual first, because only spiritual foundations can stand real strain. Next intellectual, because men are swayed by reason as well as feeling. Material last — important, but last because the very highest kinds of morale are often met when material conditions are lowest.

Slim then emphasizes the place of Christianity in the Army:

Religion has always been and still is one of the greatest foundations of morale, especially of military morale. The Christian religion is above all others a source of that enduring courage which is the most valuable of all the components of morale,

and concludes

we had the advantage over our enemies that our (spiritual foundation) was based on real, not false, spiritual values.

There is a need for the book *In This Sign Conquer* to be read by officer cadets and officers concerned with man-management at its source — a heartfelt concern for others.

The Australian Army has one copy of this book (Call Number 355·347 SMY) at AHQ Central Library. A copy of this book, at least, should be in each Command Library and at the Intelligence Centre Library: a pool should be held by AHQ Central Library for use at Chaplains' conferences and courses. Officers are invited to read a worthy tribute to the chaplains our predecessors worked with, and so gain an insight into their own relationship with chaplains 'with whom we serve'. □

CONSCRIPTION AND AUSTRALIAN MILITARY CAPABILITY, by Darcy McGaurr (Canberra Papers on Strategy and Defence No. 11. A Publication of the Strategic and Defence Studies Centre of the Australian National University. 32 pages, \$1.50).

Reviewed by Major R. L. Twiss, AHQ Canberra.

THE debate on conscription has become inexorably entangled with Australia's involvement in the Vietnam War. This booklet studies a post Vietnam situation and is mainly concerned with the economics of conscription as a source of manpower and the possible supply of volunteer manpower.

The paper is well written and provides a balanced argument for and against the necessity of 'conscript' manpower. The major points of concern are the decreasing availability of the 17-25 year age group of the male work-force through actual decreases in numbers and the increasing level of education, together with increased school leaving age.

Mr McGaurr's study probes the areas of attraction to military service and military pay relative to civilian pay, which confirms findings of the 'Gales Commission' report inasmuch that a supply function for volunteer military manpower can be established which indicates that the volunteer manpower would be available, if the price were right.

Since the study is essentially 'Post Vietnam' the author proposes live concepts of commitment or military preparedness that are of interest. First, our main area is SE Asia which is labour rich, indicating that our military contributions to this area should be 'Capital' rather than manpower oriented, and second that the army in particular should be constructed so as to allow expansion to meet a threat, within a lead time specified by intelligence. Resources thus saved, should be used to improve the Defence infrastructure within Australia.

Though this booklet is primarily written for economists, since it deals with an economic analysis of a controversial political issue, it makes interesting reading for all concerned with the defence machinery. □

THE MACHINE GUN, Volume 2, Part VII, by Lieutenant-Colonel George M. Chinn USMCR.

SPECIAL FORCES FOREIGN WEAPONS HANDBOOK, by Sergeant-Major Frank A. Moyer USA (Ret).

COMBAT FIRING TECHNIQUES, by Sergeant-Major Frank A. Moyer USA (Ret) and Sergeant Robert J. Scroggie USA (Ret).
Reviewed by Captain B. J. Sullivan, Infantry Centre, Ingleburn.

ALL three books are published by Palladin Press, Colorado, USA. As to be expected with 'hard cover' books, the standards of production are high and the books are well illustrated.

This volume of *The Machine Gun* covers the development of the machine-gun within the Soviet Union and her satellites from 1860 to 1952. Chapter I dealing with the 'Background of Soviet Arms Development' and Chapter II showing the important part that Tok Arev played in the development of the air cooled Maxim machine-gun are most interesting.

Combat Firing Techniques explains the techniques of firing a number of weapons from different countries of manufacture but unfortunately there is little variation in the various techniques. The photographs, 134 in all, are of a high standard and the explanations are clear and expressed in simple non-technical terms.

The book states that a period of research, analysis and evaluation was conducted before any weapon information was printed. However, the photograph showing the hip firing position when using the 9-mm Owen Gun is incorrect and leads one to doubt the authenticity of other portions of the book. The explanations are set out under the headings of 'Characteristics' and 'Firing Data'. The terminology and sequence of actions used differ from Australian Army doctrine, when the author makes reference to weapons in use in our army.

Because of the many duplications of photographs of the firing techniques the book would be of limited value to a military library but the explanatory information may have some use.

The *Special Forces Foreign Weapons Handbook* is designed for those who have a general interest in fire-arms. The author, with this in mind, has been very selective in his choice of weapons and has concentrated on those which have a different type of operation, or an unusual method of assembly.

The sections which divide this book into specific parts are adequate to provide quick reference to specific weapons. Section IV dealing with machine-guns is not only well set out but clearly expresses facts in great detail. Section VI giving reference data is comprehensive in every respect. The black and white photographs used are of sharp quality and show the weapon in the best position. The explanations used by the author are brief but sufficient and describe the characteristics, loading, unloading, stripping and assembling. Although the authors intention was not to include all foreign weapons this publication contains enough information and interest to warrant the book being a useful addition to a military library. □