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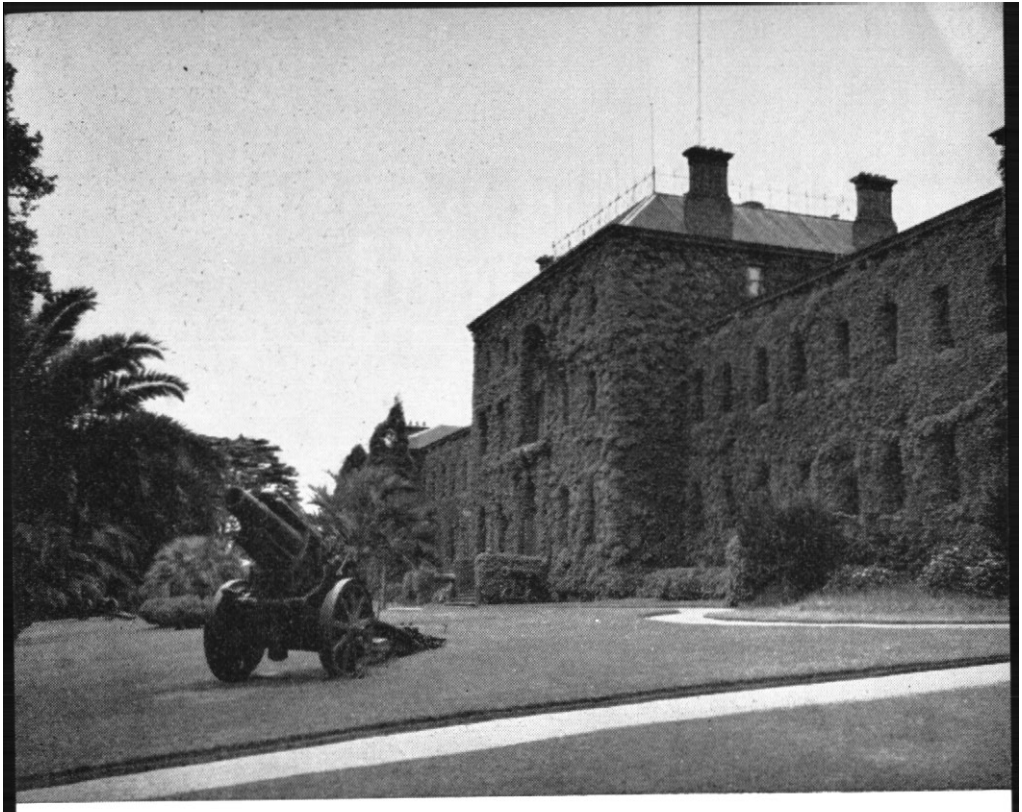

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AUSTRALIAN ARMY JOURNAL

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INTO THE BREACH

I see you stand like greyhounds in the slips,
Straining upon the start. The game's afoot:
Follow your spirt; and upon this charge
Cry "God for Harry! England and Saint George!"

— Henry V.

IN thus exhorting his troops to storm the breach his engineers and gunners had made in the walls of Harfleur, King Henry was tackling a problem which had defeated many a man before him, and has defeated many since. From the earliest times it has seldom been impossible to devise the means of making a breach in the enemy's defences, but the opening of the gap has not always led the assailant to victory. More often than not, the exploitation of the opportunity has been less successful than the creation of it.

Take, for example, the disaster that befell the Army of Potomac towards the end of the American Civil War. In the spring of 1864 the Union Commander-in-Chief, General Ulysses S. Grant, had moved with two well-equipped armies against Richmond, the Confederate capital. Grant's original object seems to have been to immobilize the main Confederate army under General Robert E. Lee rather than to capture Richmond. For three years Lee's strategy had defeated the best efforts of the numerically superior Union forces to overthrow the Confederacy. Time after time, by sheer brilliance of manœuvre, he had deprived the Unionists of the victory which seemed within their grasp.

Grant resolved that he would give Lee no more room to manœuvre. With two strong armies — the Army of the Potomac and the Army of the James — he would pin Lee down to the defence of Richmond while another Union army under General Sherman marched through the heart of the Confederacy, wrecked its economy, and reduced its people to despair. For the plan to succeed, Lee

would have to be so firmly held to the ground that he would be unable to make any substantial detachment to assist the meagre forces opposing Sherman.

Pinning Lee to the ground proved a costly and frustrating business. In a series of bloody battles — the Wilderness, Spotsylvania and Cold Harbour — he gave a good deal more than he received, and always managed to break off the fight before his opponent's superiority could force a decision. Nevertheless Grant clung grimly to his design, and in a series of movements aimed at Lee's right flank, gradually forced his way south past the eastern face of the Richmond defences. However, by the middle of June the Army of the Potomac had been definitely checked by the very strong Confederate entrenchments covering Petersburg (See Map 1). Further north the Army of the James was similarly checked by Lee's fortifications between the James and the Chickahominy Rivers. Both armies were exhausted morally and physically by the heavy losses they had suffered, the hardships of the campaign and their failure to win decisive victory.

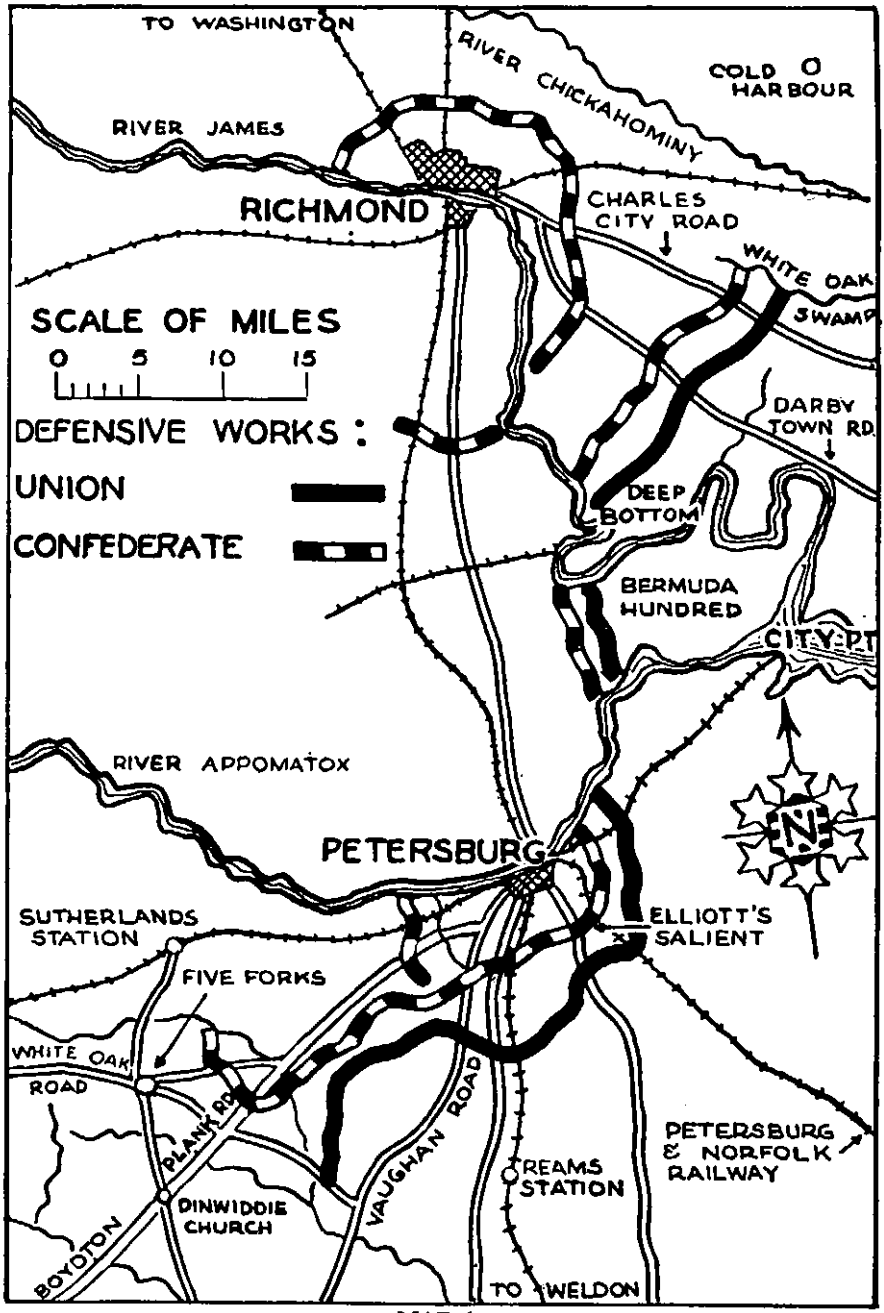
At this stage political considerations began to influence Grant's plan. The tremendous casualty lists had shocked the people of the North, wear-weariness began to spread throughout the country. Neither the people nor the troops were able to appreciate the subleties of Grant's strategy. It seemed to many of them, some in the inner circles of the Government, that Lee would never be beaten. With a Presidential election coming up, this was a serious state of affairs. If Grant's heavy losses would not necessarily lead to his defeat by Lee, it began to look as though they would lead to his defeat by the Union electors.

Grant made several attempts to get around the southern Confederate flank. They were all beaten back, one with heavy loss. The opposing forces settled down into trench warfare and worked strenuously on the improvement of their defences. Neither Grant nor his generals seemed able to produce a workable plan to break the stalemate.

The sector of the Union line due east of Petersburg was held by 9 Corps commanded by Major-General Burnside. At the point known as Elliott's Salient the opposing entrenchments were only about 130 yards apart, and at the tip of the salient the Confederates had built a strong redoubt. The Union trenches immediately opposite the redoubt were held by the 48 Pennsylvania Veteran Volunteer Infantry, a unit drawn from a coal mining district.

One day the commanding officer of the Pennsylvanians, Lieutenant-Colonel Henry Pleasants, was inspecting his trenches when he heard a man, after stepping down from a cautious peep through a loophole, remark to the world at large: "We could blow that damned fort out of existence if we could run a mine shaft under it."

Pleasants, a mining engineer in civil life, went away and did some thinking. Then he took another look, a cautious look because the Confederate snipers were very active and very accurate, made some calculations and decided the thing could be done. After discussing the idea with his regimental officers he sent a formal suggestion along to his divisional commander, Brigadier General Robert Potter. Potter sent a staff officer down to investigate. Unfortunately the staff officer, being unaccustomed to trench warfare and forgetting about the Confederate snipers, stuck his head up and was promptly despatched. Nevertheless, Potter thought there might be something in the idea, and a few days later took Pleasants along to see the corps commander. Burnside put his visitors at their ease, stroked his fabulous whiskers, and expressed keen interest in the proposal. He told Potter and Pleasants to get to work while he took the matter up with the army commander, General Meade.


TO WASHINGTON
RIVER CHICKAHOMINY
COLD HARBOUR
RIVER JAMES
RICHMOND
CHARLES CITY ROAD
WHITE OAK SWAMP
SCALE OF MILES
0 5 10 15
DEFENSIVE WORKS:
UNION
CONFEDERATE
DARBY TOWN RD
DEEP BOTTOM
BERMUDA HUNDRED
CITY PT
RIVER APPOMATOX
PETERSBURG
N
SUTHERLANDS STATION
ELLIOTT'S SALIENT
FIVE FORKS
WHITE OAK ROAD
PLANK RD
VAUGHAN ROAD
REAMS STATION
PETERSBURG & NORFOLK RAILWAY
DINWIDDIE CHURCH
BOYDTON
TO WELDON

MAP 1

Meade was prepared to be receptive but his engineers were more than sceptical. They pointed out that in order to conceal the work from the enemy, the shaft would have to begin at a point which would necessitate a length of over 500 feet, and a shaft that long could not possibly be ventilated. Meade felt that their arguments were unanswerable, but he was being heavily pressed by Grant to find a way of breaking the stalemate. He couldn't see any way, so, in hopes of relieving the pressure, he told Grant about the proposed mine. Grant did not see much promise in the scheme either, but he told Meade to let Burnside go ahead anyway. At the least it would keep the troops occupied.

So, with these unhelpful endorsements, and because there was nothing else in sight, the Pennsylvanians began their tunnel.

The ground behind the Union trenches sloped down into a shallow ravine. Pleasants started his shaft in a clump of heavy undergrowth well back from the front, organizing his troops into shifts exactly as if he was going to dig for coal. Meade promised to send a company of engineers to assist but they never turned up. Neither did the sandbags nor the timber. Burnside sent a supply of picks, but they were the wrong sort and Pleasants had to persuade the farriers of the supporting artillery to modify them. For sandbags to carry out the dirt, he substituted biscuit boxes reinforced with the hoops off pork barrels. He got some timber from the road bed of the Petersburg and Norfolk railway. When that ran out he got some waggons from Burnside and coaxed an old saw mill back to life. Meade's engineers refused to lend him a theodolite to make his measurements, so Burnside wrote to a friend who sent along a rickety old instrument. Despite these setbacks and unfavourable tunneling ground, progress was fairly rapid.

Pleasants solved the ventilation problem by building a rectangular wooden pipe along the floor of the shaft, with one end in the open air and the other close to the working face. Some little distance from the entrance he built a timber wall across the shaft. A little further on, in the side of the shaft he built a fireplace with a vertical chimney which emerged in a thick clump of bushes. The fire drew the air in the shaft up the chimney. This tended to create a partial vacuum which drew in a constant supply of fresh air through the wooden pipe.

When he had driven his shaft just over 510 feet, Pleasants calculated that he was directly under the Confederate redoubt. He then drove two lateral galleries at right angles to the main shaft, and in these he packed the four tons of powder Meade provided.

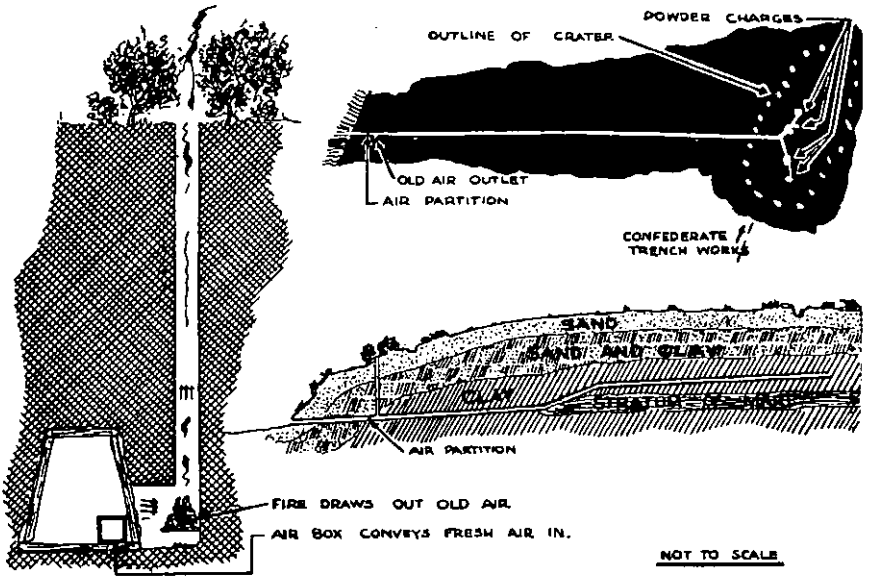
. . . . .

Soon after Pleasants started his shaft a Confederate artillery officer in the redoubt became suspicious that something unusual was afoot. Several days of careful observation led him to the correct conclusion, but before he could do anything about it he was wounded by a sniper. However, on his way to hospital he passed Lee's headquarters where he made his suspicions known. Lee ordered counter-mining to be undertaken.

The Confederates dug two 10-ft shafts at either end of the redoubt and ran out listening galleries from them. However, Pleasants's shaft ran directly under the centre of the redoubt at a depth of 20 feet, and the Pennsylvanians worked so quietly that the Confederates failed to hear them. Pretty soon they began to treat the affair as just another rumour.

. . . . .

When Grant heard about Pleasants's rapid progress he cast about for ways and means of making sure the promised opportunity was fully exploited. The bulk of Lee's army lay to the south of the James, north of the river there were miles of Confederate trenches pretty thinly held. Potentially this was Lee's most sensitive sector for it covered the



SECTIONAL VIEW OF PETERSBURG MINE.

direct approach to Richmond. Any strong threat to it would be bound to draw Confederate troops from south of the river, and every man enticed away from that area would improve Meade's chance of taking Petersburg when the mine exploded. Accordingly he ordered a cavalry corps and an infantry corps to march northward close behind the front, cross the James at Deep Bottom at a point where they would be observed by the Confederates, and develop operations against the Confederate line between the James and the Charles City road. When Lee responded the Union troops would move swiftly back to the Petersburg area by night.

This part of the plan worked perfectly. The two corps crossed the James early on 27 July, the cavalry going on to strike the Charles City road while the infantry wheeled up against the Confederate outposts behind them. Without becoming too deeply committed the two corps made it look as though a big attack was coming. Lee drew veteran divisions out of the Petersburg lines and by the morning of the 29th he had more than half of his army north of the James, leaving only some 18,000 infantry to hold the sector in front of Petersburg. By that time more than a third of Grant's troops had already returned by night to the Petersburg area, and the rest of them were due to start back that night. And at 0330 hours on the 30th the mine was to go up and the big attack to begin.

Burnside had four divisions in his corps, each of about 3000 men. Three of them were very tired and more than a little disillusioned by the apparently fruitless battles in which they had been engaged. The fourth, a fresh division which had not been in a major operation, was composed, except for the officers, of coloured troops, negro slaves escaped or released by the Federal advance from their Southern masters. Its commander, General Ferrero, had drilled it into a fair state of efficiency. Since it was also the strongest numerically, Burnside

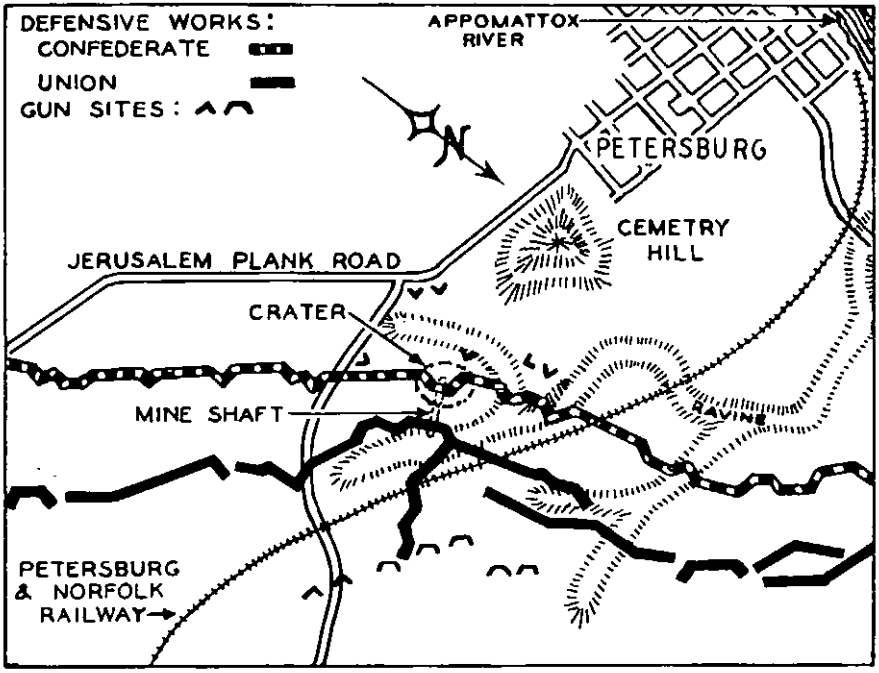
elected to employ it in the spearhead of his attack, and had set it to work practising its role. Burnside's original orders provided that Ferrero would go no further than the Confederate entrenchments, his division was to fan out on either side of the mine crater, widen the gap and hold the flanks against counter-attacks. The other divisions were to pass through the gap and capture Cemetery Hill, which was the ground vital to the defence of Petersburg. (See Map 2).

On the afternoon of the 29th, that is, a few hours before the operation was due to start, Meade made two amendments to Burnside's plan. For political reasons he insisted that the coloured division could not be used as the spearhead. Burnside, untroubled by political issues, objected vigorously. The matter was referred to Grant, who decided that Meade was right. While they were awaiting this decision, Meade, bewitched by the importance of Cemetery Hill, insisted that the assault should drive straight through to that eminence regardless of what might happen on its flanks. Burnside, deflated by the loss of one argument, reluctantly agreed. The final order that emerged from this stormy conference provided that —

(a) The leading division to pass straight through the gap caused by the explosion and capture the crest of Cemetery Hill.

(b) The next division to follow closely on the heels of the first and come up on its left on the southern slope of Cemetery Hill.

(c) The third division to follow closely and come up on the right of the first on the northern slope of Cemetery Hill.



MAP 2

(d) The leading division to be formed up in the shallow ravine behind the Union trenches ready to start as soon as the mine exploded. Means were to be provided to enable the troops to rapidly negotiate the deep forward trench.

(e) The attack to be supported by all the artillery which could be brought to bear — 80 field guns, eighteen 10-inch mortars, twenty-eight light mortars and eighteen 4½-inch siege guns.

When Burnside got back to his headquarters he called his divisional commanders together and had them 'pull straws' for the role of leading the assault. General Ledlie drew the longest straw, which was unfortunate for several reasons. Ledlie's division was the weakest in all respects of the four available. One of his two brigades was made up mostly of converted cavalrymen and heavy gunners, who never ceased protesting that they had not enlisted to become infantrymen. Their conversion training had been sketchy to say the least of it. The other brigade was tired, gun-shy and disillusioned.

If Ledlie had little faith in his troops, they had even less in him. Neither competency nor courage were among the attributes he was noted for. Indeed, not many weeks before, when his troops were engaged in a desperate and fruitless attempt to capture a Confederate trench, Ledlie had stopped behind and got drunk in a dugout. These and other things were well known to pretty well everyone in 9 Corps except Burnside, who had the happy knack of simply not knowing anything about unpleasantries like that.

The mine was due to explode at 0330 hours on 30 July. Ledlie had his division formed up well before that, but there had been time to give them no more than the briefest instructions in the role they were to play. Burnside moved his headquarters further forward, and both Meade and Grant came up to the vacated site, which was about half a mile behind the front. The secret of the mine had not been well kept and there was a general air of excited expectancy about the whole area. As the moment approached the gunners stood by ready to fire, commanders and staff officers, watches in hand, peered out into the darkness. The silence was unbroken save for an occasional shot from a sentry.

0330 hours came and nothing happened. A half hour passed and still nothing happened, and another half hour. Daylight crept over the scene and a lot of people began to think the whole affair was just another rumour, and relaxed. Grant and Meade got impatient and sent off a staff officer to find out what had gone wrong.

Meanwhile Pleasants was boiling with anxiety at the mouth of his tunnel. He had lit the fuze at the right moment and the little spark of fire disappeared into the darkness. When the mine failed to explode he felt compelled to wait for the full safety margin of an hour before sending anyone in. When the hour elapsed an officer and an NCO groped their way along the tunnel. 400 feet in, and 110 feet from the powder they found that the fuze had gone out at a splice. They re-lit it and got out of that tunnel as fast as they could.

At 0445 hours the mine exploded, throwing a mighty fountain of earth, rock, timber, guns and human beings into the air. The sheer violence of the explosion rocked Ledlie's men, and it seemed to them that they were in danger of being smothered by the falling debris. Some of them broke back and it took ten minutes or so to get them formed up again.

When the leading brigade reached the deep forward Union trench they found that no arrangement had been made for them to climb out of it. (At the subsequent enquiry there were many assertions to the effect: "I ordered it to be done", and an equal number of protests: "Nobody told me to do it.")

Some officers had their men jab bayonets into the vertical side of the trench to make ladders and hold them in position while other men climbed up. Some tore down sandbags to make a rough stairway. Eventually a straggling line of men got out of the trench and began to run forward in twos and threes.

When they got to the place where the Confederate redoubt had been they found themselves gazing into a huge hole 170 feet long, 60 feet wide and 30 feet deep. The sides and the bottom were littered with wreckage of all kinds, broken timbers, dismounted guns and many bodies. The men scrambled down into the crater, to be followed by others as they came up. Pretty soon Ledlie's whole division was in the crater, some of them trying to recover the guns, some digging out the buried and half buried Confederates. Others were just souvenir hunting. Not a vestige of organization remained, the two brigadiers could not extend their efforts to regain control beyond their immediate vicinity. Ledlie himself had dropped off into a dugout with a bottle of rum.

. . . . .

When the explosion occurred the Confederates were going about the normal routine of trench warfare. An officer who was dug out of the crater said that he had been asleep at the time and came awake while he was still going up. The troops on the trenches on either side of the mine staggered round the nearest traverse shocked and dazed. When the dust was settling, about the time when Ledlie's men were sliding into the crater, some of them took a cautious look and found that the debris had sealed off the trenches and made a rough breastwork running back for some little distance more or less at right angles. Officers collected small groups and lined them along these breastworks. If they were pretty thin on the ground, they were all good shots.

Behind the next salient to the right was a Confederate battery, the left gun of which was in an embrasure sheltered from the Union artillery fire which had descended as soon as the mine exploded. This gun was promptly swung round to fire canister at the crater at a range of 400 yards. Casualties among the gunners were severe and they had to call on some adjacent infantry for help, but they kept their piece in action despite all the Union attempts to silence it. Five hundred yards to the left a four gun battery in a depression behind some trees which masked it from the Union observers, also came into action. And from various pockets and depressions, Confederate mortar crews began to come into action and shoot at the crater.

Some weeks earlier the Confederates had deployed a sixteen gun battery in 'silent' reserve in the slightly sunken Jerusalem Plank road, 600 yards immediately in rear of the crater. This battery had not been picked up by the Union observers. When the commanding officer had scrambled out of the shelter which had collapsed on top of him, he loaded up his guns but resolved to withhold fire until a really worth-while target presented itself.

A Confederate brigade commander in reserve behind the battery on the Jerusalem Plank road, without waiting to put on his coat or hat, dashed up to have a look. He promptly dashed back again, pulled his troops together, and lined them along the shallow ravine between the crater and Cemetery Hill. The commander of an adjacent division started his reserve brigade towards the scene as soon as he learned that the explosion had wrecked Elliott's redoubt. Further afield, a corps commander marched towards the commotion at the head of three brigades. Several commanders despatched couriers to appraise General Lee of the situation.

. . . . .

Meanwhile, in accordance with the Union plan, Potter's division had followed Ledlie. However, the left of the leading brigade overlapped the crater and got mixed up in it with Ledlie's

men. The right of the brigade scrambled over the wrecked Confederate trenches to be met by blasts of canister from the lone Confederate gun on the right, and by rifle fire from Confederate infantry in the trenches on their right rear. The regiments reeled back and joined the throng in the crater.

Potter directed his second brigade to swing to the right and clear the enemy trenches. Fighting resolutely, the brigade made good progress, but the wreckage over which it had to clamber, combined with the gun and rifle fire pouring into its flank, brought it to a stop when only a hundred yards or so had been cleared.

Wilcox followed Potter and, finding the crater so jammed with troops that no more could be got in, swung left in an effort to widen the gap in that direction. He managed to clear about 150 yards of trench, but could hold it for only a short time in face of the fierce Confederate counter-attacks which were now developing.

All this time Burnside, very much of a headquarters general, was sending out staff officers to ascertain the situation. By the time they had fought their way forward through the stream of walking wounded and stragglers, and fought their way back again, and Burnside had made an appreciation and written an order, the situation had changed again by the time it got there.

By this time Meade had become impatient and, dissatisfied with the information he was getting, peremptorily demanded an 'immediate and truthful report of the situation'. Burnside lost his temper and wired back that Meade was behaving in an ungentlemanly manner. Simultaneously he despatched an order for Ferrero to advance with his coloured troops and carry the crest of Cemetery Hill at all costs. Ferrero moved to the left of the crater and captured a Confederate trench. Despite heavy casualties and a trench jammed to suffocation, the officers managed to organize a charge towards the vital hill. The 16-gun battery on Jerusalem Plank road waited until the charge had got fairly started, then pulled all the lanyards simultaneously. The storm of canister smashed Ferrero's division in one devestating salvo. Only one man made the distance to the first objective, a private who ran all the way with never a falter and leapt into the ravine where he was felled with a ramrod.

All was now over and Meade knew it. But Burnside, still at his headquarters, kept on insisting that it was still possible to win the hill if divisions from other corps could be put in. In the end Grant intervened and told Meade to call the whole thing off and get the men back from the crater.

Getting the men back was not so easy. Confederate guns swept the rim of the crater. Confederate mortars lobbed bombs into it with deadly accuracy and monotonous regularity. The sun came up and filled the hole with heat, and men went mad and scrambled out and ran blindly in any direction. Some brave souls collected water bottles and set out to replenish them in the Union lines. Some succeeded in making the round trip. But it was no use. The Confederate infantry closed in grimly. By nightfall most of the men in that hole were either dead or on their way to prison camps.

Now, how many lessons are in that for the planners of an atomic strike — and how many for those on whom the blow falls.

— E.G.K.

Some Thoughts on The Local Counter-Attack

MAJOR H. P. BOLAND

17/18 Infantry Battalion (The North Shore Regiment)

WITHIN the next few weeks, the first of the 1959 series of CMF Camps of Continuous Training will be commencing, and during this period the Infantry Battalions in particular will be carrying out practical training in connection with the subject of major study for the current Training Year — the Local Counter-Attack.

This article has been prepared in the hope that it may prove of some value by seeking to expose some of the dangerous fallacies which are often heard being expressed at TEWTS in connection with this subject. In particular, it is hoped that a perusal of these notes may lead some of us to discard the loose and dangerously wrong terminology of "Counter-Attack Platoon", and "Counter-Attack Company", with their widely accepted implications that one ONLY platoon or company (as applicable) is nominated within either a company defended locality, or a battalion defended area, for counter-attack roles.

In view of these misconceptions, and the general paucity of references to the low level aspects of the subject, it is the aim of this article to get down to basic facts and figures, and to determine what we can (and more often can't do) in the way of local counter-attack. Two questions summarize all the problems which we will be called on to consider —

(a) When DO we launch a local counter-attack?

(b) Where do the forces come from?

When we can answer these two questions, we can then answer the "Jack Pot" question which automatically follows these — "Can I in fact counter-attack AT ALL?"

General Considerations

In considering those Principles of War which are particularly applicable to the defence phase, the principle of FLEXIBILITY is one which is, to a degree, often overlooked. Without FLEXIBILITY in the conduct of the defence, the initiative will pass to the attacker, forcing the defence to conform to his moves, until such time as he has gained sufficient hold within the FDLs, to permit him to mount his major assault and achieve a break through.

The principal means by which we retain FLEXIBILITY within the conduct of our defence is by —

(a) defence in depth; and

(b) the use of counter-attack forces.

Whilst the concern of this article is with (b), none the less we must keep firmly in mind the fact that defence in depth is an essential pre-requisite to the successful use of counter-attack forces, as it is this factor which —

(a) Gives us the time to initiate our counter-attack plan; and

(b) Allows us the alternative of sealing off the enemy penetration of our FDLS, instead of being forced to counter-attack without any other option.

Counter-attack forces are the means by which commanders at all levels retain their ability to influence the defensive battle — without which the principle of FLEXIBILITY is lost to the defence.

To remove any doubts which may exist in the usage of the terms "Deliberate" and "Local" as applied to counter-attack forces the difference between these two forms is fully explained, although this study is confined to considering the local form.

Types of Counter-Attack

There are two types of counter-attack –

Local Counter-attack

An attack which is organized by unit or sub-unit commanders with the aim of destroying LOCALIZED enemy penetration or threatened penetration of the FDLS, and restoring the FDLS.

Deliberate Counter-attack

A fully cor-ordinated attack, planned in detail, in which the formation commander's reserve is committed, with the aim of regaining, or preventing the loss of the sector vital ground.

The differences between these two forms of counter-attack may be summarized thus —

Roles

The local is purely a unit matter, and one which will in most cases have no great effect on the formation battle; on the other hand, the success or failure of the deliberate counter-attack will determine the result of the formation battle, and failure in this case may well lead to a major break through by the enemy.

Speed

Whilst speed in launching the counter-attack is more essential the lower the level, it is none the less a major factor in ensuring success at any level. It is apparent, however, that speed is less important in the deliberate form than thorough preparation and fully co-ordinated support by all available means.

Supporting Arms

It is here that the difference is most marked, as the assistance from outside sources which can be given to local forms becomes more limited the lower the level descends. In contrast, it is essential for the deliberate counter-attack to have the maximum of fully co-ordinated fire support, from all available means, to balance the launching time lag.

Ground Holding Responsibility

Within the local sphere, it is usual for a unit or sub-unit to be given the primary role of holding a piece of ground, with counter-attack tasks as a secondary role only. This is by virtue of the fact that within a forward battalion's defended area there will be little if any ground which is not of tactical importance, and which does not need to be held by troops on the ground.

At formation level, the counter-attack force is kept free of any ground holding role, as a general rule, the deliberate counter-attack being it's primary task.

Ground holding responsibility is a factor which drastically reduces the forces available for any local counter-attack roles, and is a constant restriction upon the freedom of action of local commanders, in contrast to the freedom of the formation counter-attack force from this responsibility.

Factors Affecting The Launching of a Local Counter-Attack

(a) *General Considerations*

Counter-attacks at any level should NOT be launched as an automatic reaction against enemy penetration. They should only be launched as the result of a considered appreciation, as to whether it is more important for the stability of the defence to attempt to regain lost ground, and in doing so to weaken the hold which we already have on the ground from which the counter-attack force will be taken; or whether the interests of the defence are best served by retaining our

hold on that ground which we still occupy and attempt to seal off the enemy from further penetration by fire. Under certain favourable circumstances (possibly down to company level, but never below) it may be more advantageous to carry out a re-grouping of forces than to counter-attack. Once a commander at any level has lost the power to counter-attack he should at once endeavour to report this to his next higher commander, in order that he may decide whether or not the danger to his defended locality/area is such that it warrants the intervention of his own counter-attack force to restore the position, within his subordinate commander's area of responsibility.

(b) *Forces Available for the Local Counter-attack*

The forces available at any level within an infantry battalion for counter-attack role are severely restricted by the necessity to actually hold ground with troops. We have already discussed certain aspects of this factor, from this we can deduce that at ALL levels SOME troops must be left on the ground from which the counter-attack force has moved, for the defence of that ground and to provide a firm base from which the counter-attack force can operate. This being the case, it is evident that any sub-unit nominated in a counter-attack role must perforce leave an element behind them to form this base, thus further depleting the numbers of troops available for the task.

(c) *Extent and Nature of the Enemy Penetration*

It must be kept in mind that any enemy attack which has managed to "take out" a section post, or the greater part of a platoon or company locality, will probably be at least three times as strong, numerically, as any counter-attack force which we will normally be able to put in against them. It is apparent that we must look for some balancing factor which will compensate for this numerical disadvantage. These factors are SURPRISE, with its major component of SPEED, and secondly SUPPORT.

(i) *Surprise*

The element of SURPRISE is difficult to obtain in the local counter-attack, by any means other than SPEED IN LAUNCHING THE ATTACK. This can be gained at all levels by —

SIMPLICITY OF PLAN.
PRE-PLANNING.
PREPARATION.
REHEARSAL.

These elements of SURPRISE will be our major factors in compensating for the enemy's numerical superiority over us.

(ii) *Support*

We can further offset our numerical disadvantage by the employment of whatever forms of fire support can be arranged without losing our SIMPLICITY OF PLAN, and which can be arranged WITHOUT causing delay in the launching of the counter-attack.

Forces Likely to be Available For Counter-Attack Tasks At All Levels

(a) *Within the Section Defended Post*

With the exception of the LMG which remains in its pit (from whence it can most effectively support the action of the section, and at the same time attempt to break up any enemy move to reinforce his troops already within the post) the remainder of the section will counter-attack from their individual pits. The LMG in this instance becomes the ground holding element for the section, and forms the firm base from which the section can attack. It should never be accepted that the only form of counter-attack of which a section is capable in defence of its post is the automatic reaction of the odd man or two to the danger. Whilst the value of such actions

are undeniable, much more can be achieved in the way of positive results by the section acting as a team and bringing the full weight of a co-ordinated assault on the enemy, and they should be trained to act in this way.

(b) *Within the Platoon Defended Locality*

All sections must be prepared to counter-attack into any other section post within the locality. The force which will be available for this task under these conditions will in most cases be no more than a section, less its LMG group, operating in a role similar to (a) above.

(c) *Within the Company Defended Locality*

Each platoon will be prepared to counter-attack into the locality of any other platoon. The counter-attack element which any one platoon can provide as the company counter-attack force will normally not exceed two assault sections, plus elements of the support section and platoon HQ. The remainder of the platoon will act as the ground holding element of the force.

(d) *Within the Battalion Defended Area*

The usual deployment of companies within a forward battalion defended area is to have two forward, and two reserve companies. Unless a battalion is in a position of isolated defence (and, therefore, liable to attack from any direction) counter-attack tasks need only be given to the reserve companies, each of which must be prepared to counter-attack into the localities of either of the forward companies. This does not imply that the battalion commander has TWO counter-attack forces at his disposal drawn from both the reserve companies, but simply that he has ALTERNATIVE counter-attack forces at his disposal, in case the circumstances of the battle prevent one or the other of these reserve companies from carrying out its counter-attack role when required. The ground holding commitment of these companies would not permit the use of both of the reserve companies in SEPARATE counter-attack roles.

The battalion counter-attack force from either of the reserve companies would normally not exceed two platoons, plus company HQ; with the remaining platoon acting in a ground holding role for the counter-attack force. Once this counter-attack force has been committed the battalion commander must attempt to form another reserve for counter-attack purposes, which will not be the remaining reserve company, as this will leave him too weak on the ground, and consequently unable to carry out the task given him by the brigade commander, of holding an area of ground, as part of his higher plan. This reserve will probably be based around the Assault Pioneer Platoon, plus elements of A and B echelons, if time and circumstances permit of them being forward.

Failure of the battalion counter-attack force may make it necessary for the battalions commander to re-group his forces (if the circumstances of the battle will permit) in order to maintain his hold on at least part of his allotted ground.

Supporting Fire Likely to be Available at Various Levels

The basic principle to be observed in planning support for any local counter-attack is that whilst the maximum possible support of all types should be obtained, the counter-attack can not be held up whilst these arrangements are being made. Support must be sacrificed in favour of speed in pressing home the assault before the enemy has had time to re-organize, and is still off balance.

Where supporting fire is being pre-planned, the keynote of this planning must be simplicity — both the speed necessary, and the difficult and confused circumstances under which a local counter-attack takes place prevent complicated supporting programmes being arranged.

Supporting fire can come from a number of sources, but can be considered basically as being either INTERNAL (ie, provided by the ground holding element of the sub-unit from which the counter-attack force has been provided), or EXTERNAL (ie, provided from sources OUTSIDE the sub-unit in question). The supporting fire likely to be available at the various levels (consistent with the various factors mentioned above) may be expected to be as follows:—

(a) *Within the Section Defended Post*

Supporting fire from the LMG in a ground holding and support role, plus fire from the flanking sections if they are not closely engaged themselves, and, particularly in the jungle, if they can observe the enemy penetration.

(b) *In Support of the Platoon Counter-attack*

Fire from the LMG of the counter-attack force (operating in its ground holding role for the force) plus the remainder of the platoon weapons which can be spared, or can be brought to bear on the enemy. Supporting fire from flanking platoons under the conditions outlined in (a) above. In view of the comparatively shallow depth of a platoon locality, the 60-mm mortars will be best used on the enemy FUP to prevent movement of reinforcements; some use of the 3.5 rocket launcher in an area role against those enemy troops within the area of penetration should be considered.

(c) *In Support of the Company Counter-attack Force*

Support will be given by the ground holding element of the counter-attack force, plus whatever fire can be brought to bear by the remainder of the company. It may be possible in view of the greater depth to the locality to use 60-mm mortars on the objective; otherwise they will be used as in (b) above. The 3.5 rocket launchers may again be used as previously mentioned.

External support may come from flanking companies, under the same conditions as in (a) above, pre-planned 3-inch mortar and artillery DF tasks may be called down if they can be of assistance to the counter-attack, otherwise if an MFC or FOO is available, opportunity targets can be engaged. Supporting fire of this nature would, in any case, probably be best employed in preventing the enemy from reinforcing those of his forces within our locality. The danger area from the bursts of this type of supporting fire will normally preclude their use within a company defended locality. MMG support from flanking localities is a further possibility.

(d) *In Support of the Battalion Counter-attack Force*

Will be supported by the ground holding element left behind, plus fire support from those elements of the flanking companies which are able to support the assault. MMG, 3-inch mortars and artillery will be able to fire to cover both the move to the start line, and the actual counter-attack on to the objective, which would have been a pre-arranged DF task; use of smoke may be of assistance here. FOO and MFC can give flexibility to the supporting fire by engaging opportunity targets.

Tanks will rarely be available in support of a battalion counter-attack force.

Timings to be Considered

The most suitable time to launch a local counter-attack is when the enemy's forward movement has been brought to a standstill by the weight of fire of the defenders, and through the loss of his offensive strength through the casualties which his assaulting troops have incurred. At this stage, those enemy elements which have penetrated our FDLS should be isolated from reinforcement by our supporting fire (even if this is only for a limited period) and destroyed by counter-attack before they can reorganize.

The enemy must be given no time to strengthen his hold on our position.

At this stage the enemy will be suffering from the following disadvantages which we must seek to exploit quickly by counter-attack:—

(a) Confusion will exist due to some leaders having become casualties.

(b) The attackers will be on unfamiliar ground, and generally (in the early stages at least) be fairly exposed.

(c) Will still be suffering some psychological effects from the ordeal of the assault.

(d) Be aware that they are isolated, even if only for a short period.

(e) Have only the most limited close support available, if any.

A quick, determined counter-attack at this stage may well prove effective, even though the enemy be numerically the stronger.

The higher the level, the longer the counter-attack will take to be launched due to the greater numbers and distances involved, and the fire support required. At the same time, the longer will the commander have to make his decision whether or not he needs to, or in fact can, counter-attack. The increased depth to the defence at each successive level gives more time to the commander to make his decision.

In all cases, once the decision to counter-attack is made it must be implemented with the greatest possible speed.

Pre-Planning The Counter-Attack

This is initiated as the result of an appreciation of how the defensive battle is likely to develop, particularly as regards likely objectives of the enemy, the approaches to these positions from the enemy point of view, together with their likely start lines and forming up places. From these considerations we should then deduce whether the loss of any of these selected objectives would necessitate counter-attacking, and finally select those areas on which a counter-attack is required, depending on the state of the defensive battle.

Further consideration can now be given to allocation of DF tasks to whatever supporting fire can be expected or arranged. As well as those areas mentioned above, it is essential that that ground which is considered as vital to the defence be registered as a DF SOS task.

Within the defended locality itself, particularly in jungle conditions, routes to FUP (or FUP's) and Start Line/s must be carefully selected, with a view to use both by day OR night; otherwise alternate night and day routes must be selected.

Preparation

Up to and inclusive of a company defended locality, the FUP(s)/Start Line(s) (a company locality in the jungle may well have up to three different FUPs/Start Lines, ie, one per platoon locality in support of the company defensive plan) will be in or near the locality supplying the counter-attack force. It may be advantageous, for night movement particularly in the jungle, if start lines are indicated by taping, or some other less conspicuous natural means in order that the attack can be correctly aligned. Some thought should also be given to similarly indicating the axis of the attack, in an effort to increase both the accuracy and the speed of the counter-attack.

As far as possible at company level, and certainly at battalion level, the routes to the FUPs and start lines should be clearly marked and signposted for movement by night.

Rehearsal of Counter-Attack Forces

Much can be done to improve the speed with which a counter-attack can

be launched, by constant rehearsal of the various counter-attack roles within the locality or area, and indeed, even within the section defended post.

The reasons for carrying our rehearsals are variously —

(a) To ensure that all troops taking part in, or supporting a counter-attack, are aware of their tasks, the signal to launch the counter-attack, and the routes by day and by night.

(b) At higher levels, to practice the integration of the fire plan with the movement of the assaulting troops.

(c) To test under the actual conditions, all communications and control systems, with a view to improving both their efficiency and simplicity.

(d) To give the nominated commander, and the commanders designate of any counter-attack force the opportunity of exercising the forces under command, paying particular attention to change of command without warning during the various stages, in order that the fact that the nominated commander becomes a casualty at a critical stage will not cause the counter-attack to falter.

(e) At all levels, to practice the operation of simple battle drills and techniques, which will assist in saving time in launching the attack.

In fact, by these, and by whatever other means appear to be appropriate, to endeavour to increase the speed with which the counter-attack can be forced home.

Troops should be rehearsed in their roles by day and by night, in order that both the routes and the procedures become second nature to them. All rehearsals should be timed, so that a progressive check can be kept on the training, and steps can be taken to improve on timings.

It is suggested that the following paragraphs give a reasonable outline of rehearsals at the various levels —

(a) *Within the Section Defended Post*

In view of the fact that a section post is usually fully engaged from all directions under conditions of close attack, the preparation which can be made for counter-attack within a section is very limited, and will consist of simple control signals which we will discuss later, and the institution and rehearsal of a simple counter-attack drill when the signal is given. This drill is simply to practice troops in leaving their weapon pits simultaneously and closing with the enemy, whilst supporting fire is given by the section LMG. This simple procedure should be the subject of constant timed practice, in order that the section reaction to the order to counter-attack is immediate.

(b) *Within the Platoon/Company Defended Locality*

At either of these levels it is possible to carry out considerably more preparation and rehearsal than at section level, the amount increasing the higher that the level becomes.

In view of the fact that each Section/Platoon will have to be prepared to counter-attack into any other Section/Platoon area within the locality, each sub-unit becomes eligible for two counter-attack roles. In addition to the simple drill discussed in (a) above, rehearsal by the counter-attack element in each sub-unit of these two tasks will be necessary, with particular regard to the control aspects, changes of command at short notice, working with the fire plan, signal to launch the attack, movement to start lines by day and by night; and the reorganization on the objective. Some thought should be given to the command aspects as regards any of our troops who may still be holding out in the area which we are counter-attacking.

These rehearsals should be timed, and at this level particular care paid to the integration into the plan of whatever fire support is available.

(c) *Within the Battalion Defended Area*

As there will be a greater and more complex degree of fire support available to the battalion counter-attack force, careful pre-planning is required to fully integrate this into the battalion plan. Fire tasks should be kept as simple as possible, and rehearsals should particularly stress these aspects of the plan.

Care should be given to the communications aspects, which should be tested under all conditions. This aspect will be dealt with in full later.

Otherwise, those conditions given in (b) above apply equally to this level.

Control

(a) *Responsibility for Ordering the Counter-attack*

Any commander may initiate a counter-attack at any time, within the area of his own command.

If a commander loses the ability to counter-attack, he should at once (if possible) inform the next higher commander of this fact, in order that the senior commander may initiate action by his own counter-attack force should he feel that the threat at the lower level warrants his intervention in the interests of the defence as a whole.

A commander of a defended locality, or area, will not lead his counter-attack force (except of course at section level) the actual assault commander will be detailed by name, and he will follow the usual course of nominating the succession of command in the event of casualties. It will be normal for the commander of the counter-attack force to be the commander of the sub-unit which supplies the force.

(b) *Passing the Order to Counter-attack*

Bearing in mind the conditions under which a counter-attack will be launched, particularly below battalion level, considerable thought must be given to the methods by which we can ensure that not only will the order be received at the correct time, but, in view of the fact that sub-units each will have TWO nominated counter-attack tasks, that the commander knows in fact which task he is required to carry out. Whilst this problem would not normally arise under conditions of open warfare, it becomes a real problem in the jungle. The reason that it does so is because of the possibility that at company and lower levels the defended localities are likely to be simultaneously heavily engaged. Through inability to view the battle, a counter-attack force commander within a platoon or company locality may in fact be unable to ascertain which of his two tasks is the area in which penetration is considered sufficiently dangerous for a counter-attack to be launched. In other words, as well as being told when to attack, he must also be told which of his tasks he is to carry out.

Signals within the section post must be simple and unmistakable (this of course applies equally to all levels).

Suggested methods might well be —

Whistle blasts, or verbal orders IF the noise of battle permits.

If too noisy, by commander commencing the attack.

Smoke grenade hurled by section commander.

Within the platoon locality, the signal could be given by any of the following means:—

Whistle blasts or verbal orders. (Again IF noise of battle permits).

Signal flares fired in the direction of the objective.

Smoke grenade hurled by platoon commander towards objective.

Brief written orders thrown in a tin from pit to pit. (This latter method was used on a number of occasions by the AIF in the South-West Pacific Area during World War II).

Control of the company and battalion counter-attack forces is simplified by the existence of properly established wireless and line communications to their sub-units. None the less, in view of the fact that such communications are subject to interference (and this might be quite a factor in an area wherein a limited nuclear explosion had taken place) alternative methods of passing the order must be provided. At company level this could be by runners moving by different routes, and by some system of signal flares; whilst at battalion level the use of despatch riders moving by different routes, and the use of coloured sky trail bombs from the 3-inch mortars might be appropriate.

A Lesson From The New Guinea Campaigns of World War II

Before proceeding to a summary of our considerations, it will be of value to consider a "Case History" of a rifle company holding a position of isolated defence, against overwhelming numbers, in dense jungle country, and with only that support available to it which it could provide itself. No less than 28 counter-attacks were made on this company locality by the Japanese within a period of less than three days, some of the attacks being made with a strength of up to 400. The defending company was about 70% of its full establishment at the time that the action commenced, giving the attackers a favourable ratio initially of 5 to 1.

Towards the end of July 1943, a two company attack by troops of the 58/59 Battalion captured the Old Vickers Position, in the drive on Salamaua. This position was the key to the Japanese hold on Bobdubi Ridge, and was apparently classed as the vital ground for this sector of their front.

The two companies from the 58th/59th Battalion, which had carried out the successful assault and capture of this position were relieved next morning by "A" Company of the 2/7th Battalion, which was moving in from divisional reserve.

Throughout the day the position was developed, and before dawn the next day the Japanese began their series of counter-attacks, using in the initial attack an estimated number of 400 supported by mortar fire. The attacks continued by day and by night, and so closely was the company invested that movement between pits by day became virtually impossible, all localities being simultaneously heavily engaged. Some of the attacks actually reached the FDLS, and were there destroyed by point blank fire. In every case penetration by the enemy was defeated by fire, counter-attacks at any level having become impossible due to the whole position being fully engaged.

Neither artillery nor 3-inch mortar fire could be used in support of this company (artillery was in position and available from gun areas around Tambu Bay) in view of the precipitous nature of the terrain and the fact that the Japanese FUPs/Start Lines were so close to the "A" Company FDLS. The company compensated for the lack of this support by organizing bombing squads who hurled hundreds of grenades at the Japanese as they swarmed up the steep spurs for each attack, whilst the riflemen and LMGs poured in a devastating fire to cover the bombing squads as they threw.

Casualties within "A" Company were heavy, included among them being the Company Commander who was killed fighting off an attack which had penetrated towards his Company HQ. The Japanese casualties were believed to number some 300, the enemy continuing to counter-attack until his force ceased to be of any value to him.

An analysis of this classic action brings out some very interesting points on the

conduct of the defence under conditions such as we may well face in future jungle operations against a major enemy. We shall examine them from two points of view, the attacker's, and the defender's.

(a) *The Attack*

The main fault of which the Japanese Commander can be found guilty is the inordinately long time which it took him to commit his force to a deliberate counter-attack to regain the sector vital ground. *Admitting the fact that it is* most likely that he did not have sufficient strength at this stage to keep his counter-attack force free from a ground holding role, it still took him nearly 36 hours to mount his attack. This time lag actually enabled the assaulting companies to be relieved, and a fresh company to develop the position to such a stage that it became impossible for him to regain his lost ground.

Once the Japanese commenced to counter-attack, no one could deny the fact that every attack was pressed home with remarkable determination, and no account was taken of the fact that the assaulting troops became mixed up with their own supporting fire in the FDLs on some occasions, so fiercely were the attacks pressed home.

The initial loss of time in mounting the counter-attack was the prime reason for the failure of the Japanese attempt to regain the Old Vickers Position.

(b) *The Defence*

By contrast, the Australians wasted no time in developing the position to the stage where it could successfully withstand the enemy, and eventually destroy his assault potential by attrition. The local innovation of forming bombing squads protected by the fire of the rest of the defence, in lieu of supporting fire, is worthy of note, although the terrain particularly favoured the use of grenades in such a manner, together with the tactics of the enemy. Particular note should be taken of the fact that this company was so closely invested on all sides that counter-attack forces could not be used, and that the defenders relied or their fire alone to seal off and destroy what penetration did take place. Fire discipline, steadiness under extreme pressure, and the best possible use of the period of grace which the Japanese gave them, enabled "A" Company to carry out it's task of holding the Old Vickers Position, and causing the maximum destruction to the enemy.

The series of company defensive actions which took place during the Wau-Salamaua Campaign are well worthy of study by officers desirous of examining the problems associated with the conduct of the defence of isolated localities in jungle conditions.

Summary of the Facts Which We Have Considered

Throughout the preceding pages nothing has been discussed of the effect of a limited nuclear weapon either in support of a counter-attack, or used on our own defences by the enemy. This has been purposely avoided, in order that our thoughts may not be clouded with matter which is not likely to be relevant to the subject of local counter-attack. It does not appear practicable to use even a small nuclear weapon in support of local counter-attacks, due to the comparative density of localities within a battalion defended area, and the adverse effect such a weapon would have on our own localities. The effect of a limited nuclear weapon against a battalion defended area (which would undoubtedly be the lowest level of defence against which such a weapon would be used) with a quick follow up by the enemy's assault echelons would result in the enemy gaining a hold within our position in such overwhelming force that the battalion counter-attack *could not* possibly succeed. Such a situation could only be met by either re-grouping (if this was possible) or by maintaining a firm hold on the ground remaining in our possession, with the view of attempting to prevent any widening of the enemy penetration.

In conclusion, we can summarize our studies as follows:—

(a) Generally, no individual sub-unit will be nominated as THE counter-attack force; ALL sub-units will have the task of providing counter-attack forces within the framework of the defended locality/area of which they form a part.

(b) Counter-attacks are not an immediate reaction to enemy penetration of our FDLs. They are only initiated after a proper appreciation has been made.

(c) Remember that it is always far better to attempt to destroy the enemy by fire, even though this may take a little longer, rather than upset the balance of the locality, particularly in jungle where there is no substitute for troops on the ground.

(d) Balance out your ground holding responsibility with any desire to make an end to things quickly by counter-attacking; don't forget that ground holding is your primary role within the framework of a battalion area.

(e) Notwithstanding the above, don't forget that the proper use of your counter-attack force can be decisive in your conduct of the defence; it can be used effectively, and should be used if the opportunity arises. The main thing to remember is that once you have decided to counter-attack, move quickly. Remember what failure to move quickly cost the Japanese in their attacks on the Old Vickers Position in 1943; even when the odds were 5 to 1 in their favour.

(f) Within the local sphere, sacrifice support for speed. Get all the support which you can possibly get, but don't let the arranging or the control of it interfere with the speed with which you must aim to launch your counter-attack.

(g) Be prepared to assault by day or night.

(h) Remember that commanders do get killed (remember the company commander on the Old Vickers Position — it could happen to you) and ensure that a succession of command has been arranged and has been promulgated.

(j) Don't forget the importance of being able to get the order to counter-attack through, and the necessity to tell the commander what his task is.

(k) What are you going to do when you recapture the lost ground, anyway. Don't forget that your re-organization must be far more efficient than under the conditions following a normal attack. Remember how speed in developing their positions paid big dividends to "A" Company of the 2/7th Battalion on the Old Vickers Position.

We can counter-attack, we should counter-attack, but just let us be careful to see that we do so at the moment when it will prove the decisive move in our favour in our particular battle.

Fallout and the Company Commander

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THE impact of advances in the fields of science and engineering initiated during World War II has greatly affected concepts of the conduct of future military operations. This is particularly true in the areas of nuclear weapons effects on the art of ground warfare. Within this area a great deal of theoretical study has evolved some practical approaches to the problems of reducing the foot soldier's vulnerability without destroying his effectiveness. However, many unknowns which will influence the art of command remain to be solved on the battlefield. Among these is the phenomenon of *fallout*.

Fallout is the descent of radioactive debris back to the earth from a nuclear cloud. It may occur in the immediate vicinity of ground zero soon after the burst, or it may remain suspended in the air for long periods of time depending largely on the yield and altitude of the burst. Fallout is not uniformly distributed in the atmosphere and, therefore, its effects are not uniform on surface population.

Fallout Categorized

Three categories of fallout — *close-in, intermediate,* and *worldwide* — have been defined according to geographical distribution or to time required for descent. The difference in rate of fall and the area of distribution of these three categories of fallout result in differences in radiation dosages. Of these, close-in fallout is military significant becauses it reaches the ground in a highly radioactive state, producing heavy dosage within a large area and within a few hours after the burst. Intermediate and worldwide fallout cover so much more area and arrive so much more slowly that most of the radioactive products have decayed to negligible levels of intensity. Surface or sub-surface burst nuclear weapons normally are followed by close-in fallout. Approximately 50 to 80 per cent of the fission products produced by the nuclear weapons are deposited on the ground within a few hundred miles of ground zero.

Current interim doctrine for ground atomic operations has accepted the Pentomic Division as a technique for the control of infantry units in battle. As the doctrine is advanced and improved, so also will the equipment and organization of the division be tested and improved. The effectiveness of the units within this organization will depend primarily on the quality of leadership assigned. Since the battle group with its rifle companies form the nucleus of the balanced force of essential arms and services required to carry out the division mission, the rifle company and its commander will be analyzed to determine their capability to function under conditions of fallout.

"To close with the enemy by means of fire and manœuvre in order to capture or destroy him" is the goal which must constantly highlight all actions carried out by the rifle company under the leadership of its commander. The company must have the capability to fight in close combat; to repel enemy assault by fire; to counter-attack; to seize and hold terrain; to provide a base of fire and manœuvre; and to manœuvre on all types of terrain and in all climatic conditions. This performance must be accomplished under conditions where fallout may be encountered.

A close look at the Pentomic rifle company will reveal that its organic transportation will permit only 10 per cent mobility. It should be emphasized that mobility is a relative entity that must be measured against the enemy capability for movement under similar conditions of terrain and weather. Normally, the type of terrain and the conditions of the weather to be encountered will dictate the equipment necessary for superior mobility. These conditions superimposed by fallout may alter the requirements drastically.

Re-evaluate Approaches

Fallout may be likened to an invisible obstacle whose impenetrability depends upon the intensity of radiation. Thus a fallout area may be visualized as a hill — the steepness of its profile depending on the degree of contamination present, but which is either growing in size as fallout continues to arrive or which is decreasing because fallout has ceased and the radioactive particles are decaying. Therefore, the presence of high levels of residual radiation forming an obstacle on erstwhile fine avenues of approach to the objective may cause a re-evaluation of the means required to traverse an area.

Obviously, the effects of fallout must be countered by shielding and speed while in transit, or by the avoidance of contaminated areas. Air transport is immediately suggested as an optimum carrier because the residual radiation may be completely attenuated by sufficient altitude. Only minimum radiation dosage may be received due to the speed by which personnel are carried over the area. When air transport is not available, avenues of approach must be appraised carefully in relation to vehicular or foot travel. With the exception of tanks, armoured personnel carriers provide the greatest protection against radiation by virtue of the shielding inherent in armour. When turck or foot travel is required, approaches must be selected which afford a minimum risk of receiving a significant radiation dose. Fallout that cannot be circumvented may force the unit to dig in and become immobilized.

Evidence has been presented that personnel who are physically exhausted may be subject more quickly to radiation effects. Therefore, it is necessary for the unit commander to take positive action to ensure that all his troops continually are exposed to physical conditioning until they can withstand the severest physical hardships and remain combat effective.

Tables of equipment now provide the Pentomic rifle company with one Radiac Meter, *AN/PDR-39*. This meter may be used to monitor personnel, supplies, or an area for the presence of radiation up to an intensity of 600 roentgens per hour. It is an interim instrument which should be replaced by the Radiac Meter, *1M-108PD*, as soon as available. The company also has seven tactical dosimeters (Radiac Meter, *1M-93/PD*) for measuring total radiation received by an individual or group up to 600 roentgens. The company commander may use these meters to determine the radiation dose status of subordinate units or individuals. The cumulative dosimeter readings are a guide for limiting the radiation exposure of monitors and other operational personnel.

Test Platoon Areas

Operations on the atomic battlefield will be characterized by speed, swift manœuvre, violent assault, rapid exploitation, and flexibility and dispersion both

laterally and in depth. Consequently, it is safe to assume that rifle platoons and weapons platoons may not always be mutually supporting nor always in the same vicinity. Hence it would appear that in order to obtain a knowledge of the amount of radiation existent within each platoon area, each must posses at least one Radiac Meter *1M-108PD*, with one located at company headquarters.

Personnel within the unit must be trained to operate and maintain radiac sets. This is not a serious problem because neither a great deal of time nor technical skill is required. However, training must be accomplished in such a manner that at least two monitors are always available per radiac set. To ensure accuracy and consistency of results, the sets must be calibrated before use by mobile maintenance teams servicing the division. Re-calibration is made every time a radiac meter battery or major component change is made, to include periodic calibrations. A survey meter may receive rough calibration by comparison of its readings with those of of calibrated instrument in a fallout field.

Monitor reports from the platoons will be continuously and periodically forwarded to the company commander or his designated representative. When a significant radiation is detected, the word will be flashed to the regimental headquarters. If an area survey of the company is required, the company commander or his representative will become the control party. He then directs the platoon monitors in the survey operation. He will collect the survey readings and forward them to the S 2 at regimental headquarters. This process is known as a decentralized area survey and will be conducted as required through command channels.

Monitor and area survey information is most important in determining the existence and extent of residual radiation. This information is useful to both the company commander and the regimental commander to estimate the capability of the unit to accomplish its assigned mission under the imposed conditions of fallout. When the level of intensity and effect of residual radiation is determined the unit commander must analyse the various courses of actions within his control to perform his mission. If he is given a choice, he may elect to avoid the area, pass through, or dig in. His solution will hinge upon his mobility, the extent and intensity of the contamination, the previous exposure of his troops to radiation, and the capability of the unit to obtain or develop adequate shelter with the means at hand.

Avoid "Unreasonable" Fear

The residual nuclear radiation produced by the decay of radioactice isotopes contained within the close-in fallout can neither be seen, felt, smelled, tasted, nor heard. Man's natural senses cannot detect these insidious rays, even though harmful to him, without assistance from a device (radiac meter) which will measure these rays by indirect means. Consequently, residual nuclear radiation is an unknown and because of man's natural fear of the unknown, serious psychological repercussions may be expected when he first encounters fallout.

These psychological aspects will prove most difficult to deal with because they invoke unreasonable fear. Reasonable fear is useful. Reasonable fear makes us avoid burning by fire and injury from normal hazards. Residual radiation ranges from insignificance to considerable military impact. Because it affects each man personally, it can become a powerful psychological reflex which can create panic and chaos on the battlefield which would be fatal to the unit. This must be overcome by prior training in the understanding of the radiation phenomenon, the defence against its effects, and a secure system of monitoring and area survey. Troops must be conditioned to accept fallout as they accept the air they breath. It must be

considered as a normal part of the battlefield environment. Fallout demands respect, but is unworthy of fear.

Rain may be expected to increase the amount of fallout found in a local area. A low-yield nuclear cloud, forming at or below the level of rain clouds, will be affected by the rainout phenomenon. Active particles from nominal or higher yield clouds gradually will settle into the rain levels below and then will be washed out by the rain. The natural washing effect of rain on terrain itself will cause a redistribution of radioactive particles once they have fallen. Depending on the duration and intensity of the rainfall, hill tops and hill slopes will be found to be washed comparatively free of fallout, concentrating the residual radiation in hollows or streamlines. Therefore, the unit commander must be warry of defilades and streamlines to ensure that no significant residual radiation is present.

Fallout particles are not very large. Individually, most of them are as small or smaller than a grain of salt. As a result, each particle is very susceptible to the action of a surface wind once it has fallen. It can be blown into truck beds when lifted as dust on the road. It can drift and silt into foxholes and armoured carriers or other shelters. It is difficult to control and hard to expel. The utmost imagination and field expediency of the soldier will be required to combat this hazard. All the equipment of the unit must play a part in countering radiation effects. Such material as masks, clothing, shelter-halves, shovels, axes, food containers, and the many other items contained in the unit tables of equipment must be examined for possible uses in the defence against fallout.

Know Exposure Limitations

Statistically, an established median sickness dose has been defined when half the personnel exposed to a certain radiation dose become radiation casualties. These are acute manifestations of radiation injury. It is also known that this median sickness dose varies with each individual and with the rate of exposure he suffers. It may occur as low as 100 roentgens for very rapid exposures and higher than 200 roentgens for low rates of exposure. It also is dependent upon the amount of previous exposure suffered by the individual.

A knowledge of the limitation of exposure that each individual in the unit may withstand before he becomes a casualty is most important to the unit commander from the view of employment of the individual in a fallout field. As an example, a platoon used as a manœuvre unit passing through a field of high intensity of radiation for a prolonged period, receiving a radiation dose above its tolerance limit, could become acutely sick within a few hours and unable to take its objective. This may be disastrous to the company mission.

A means must be found to classify individuals and units according to previous radiation exposure. It has been suggested that each individual carry a dosimeter which can be checked periodically and immediately after every operation to determine the amount of radiation each man received during the period of exposure. This reading is then placed on the individual's personnel record where is may be reviewed, as required, to determine the amount of radiation service the man can be subjected to safely. If the individuals are then classified into radiation groups and organized into squads or platoons which can be labelled with the maximum radiation to which its members may be subjected to reach a maximum tolerance dose, then a system to safeguard operations and a means to expedite replacement based on radiation dose can be initiated.

Conclusions

The rifle company is lacking in organic mobility and radiac and auxiliary equipment to conduct a war of movement

successfully when fallout is employed. Equipment to detect, measure, and determine the rate and amount of residual radiation present is required. The unit should have, on call, requisite mobility to be able to bypass significant fallout hazards. All personnel must be classified according to previous radiation exposure, so that they may be organized into similar radiation tolerance level operational teams. All members must be hardened to endure the severest mental and physical strains. Each man must be taught, by means of anticipatory training exercises, to perform his functions without unreasonable fear of radiation. The unit must live and fight as a team in a new environment where weather and terrain are controlling factors in determining residual radiation hazards.

The testing of a unit under fallout conditions cannot wait for the battlefield. All preparations to meet this new challenge must be completed prior to combat. The spirit of confidence and the cohesive integrity with which the unit will conduct itself under the intangible hazards of fallout will reflect the competence, judgement, and force with which the company commander renders his decisions.

COMPETITION FOR AUTHORS

The Board of Review has awarded first place and the prize of £5 for the best original article published in the March issue to "The Marches of Peace" by Lieutenant-Colonel M. P. O'Hare, OBE, Royal Australian Artillery.

JAPAN TODAY

STAFF SERGEANT P. G. GITTINS

20 National Service Training Battalion

If thou knowest what it is to conquer, and knowest not what it is to be defeated, it will fare ill with thee.

When ambitious desires arise in thine heart, recall the days of extremity thou has passed through.

— Two Maxims of the Shogun Ieyasu

AFTER Japan was dragged out of seclusion with its accompanying isolationist policy in 1854, the Japanese showed themselves apt pupils of Western culture and modernization. With the restored emperor, Meiji, and a new government, the social and political system was re-cast. Cities were modernized, factories built, and a railroad system and ships constructed to carry their products to both home and overseas markets.

Empirically minded, the Japanese were willing to try, rather uncritically, almost any device or scheme which seemed to put Japan in a better competitive position with the "western intruders". A modern army and navy was created, industrialization on a grand scale commenced, and an educational system instituted. Soon, far too soon, the government was strong enough to abolish the privileges which had been extorted by the Westerners, right from the time of Commodore Perry. An awakened Japan had passed to the counter-attack. She was to be one of the chief architects of Asia.

Japan, in the nineteen-twenties, had a comparatively calm period, but during the thirties its economic system suffered stresses and strains. With a rapidly increasing population, which it could not feed, its existence had to depend on export trade. Hence began the conquest by trade — a blitzkrieg by dumping. Cheap goods became wedges for prying open the gates to other Asian countries. Behind the goods came the Japanese retailer, the inevitable barber, and curious photographer, the rubber grower and mine concessionaire. With them came the great shipping and trading concerns, the diplomats, and the navy — the prelude to military conquest.

By 1939, the Empire of Dai Nippon or Imperial Japan consisted of Japan proper, Korea, Formosa, Manchukuo, parts of China, Kwantung Peninsula, Karafuto (the southern half of the island of Sakhalin) and numerous small Pacific islands, ie, the Bonins, and parts of the Marshall, Marianas, and Caroline Groups.

During the early thirties and up until the outbreak of war in late 1941, there were convulsions in Japanese affairs. Power passed into the hands of service leaders and the leaders of the extreme nationalist societies. Politicians had to bow to the demands of the militarists or risk death by assassination. The emperor, Hirohito, was pushed into the background, just as in the days of the Shogunate. An alarmingly aggressive

foreign policy was adopted and the Japanese Greater East Asia Co-Prosperity Sphere gradually took shape.

This was a scheme for the organization of all the states of eastern Asia, including the islands of Melanesia, so that politically and economically Japan would be supreme among them. This sphere was to include not only China, but French Indo-China, Thailand, Malaya, the Netherlands East Indies (now Indonesia), the Philippines, Burma and India, and possibly Asiatic Russia.

There was war with China, alliance with the Axis Powers — Germany and Italy — the attack on Hong Kong, Malaya, and Pearl Harbour, and finally war against the Western World. Japan over-reached herself, both militarily and economically, and within four years was brought to the verge of ruin.

Brief Geographical Review

General Description

Japan proper, with an area of some 148,000 square miles, consists of four principal islands — Kyushu, Honshu, Shikoku, and Hokkaido — and a mass of small islands ranging in size from sharp barren rocks to populated islands of several square miles. Its population is now nearing ninety millions.

Extending over some fifteen degrees of latitude, the Japanese islands show considerable climatic variations, which are added to by the proximity of the great Asiatic land mass, and warm and cold ocean currents. On the whole the winters are warmer and the summers cooler than they are on the opposite coasts of Asia. The heaviest rains are in the summer, when Japan lies within the monsoon area.

All the large islands are mountainous, containing both active and inactive volcanoes. Earthquakes are frequent since the islands lie on a marked "fault" in the earth's crust. Yet another sign of the instability of the earth's crust is the innumerable hot springs which dot the countryside, these being converted to popular use as bathing stations and holiday resorts.

So much of the country is taken up by mountains and rocky or forest covered expanses, that only some 16% of the whole area is cultivable. Rivers are numerous, providing abundant water for irrigation and power for industries. Every effort has been made to extend the area of cultivation and to improve the productivity of the soil.

Agriculture

The agricultural land consists in part of low lying fields, formed for the most part of recent alluvium washed down from the hills, in part of uplands, and in part of high plains and pastures. Nearly half the cultivated area is included within the first category — the paddyfields on which sometimes two crops of rice are produced each year. On the uplands, barley, oats and wheat are grown, with beans, potatoes and other root crops, while on the heights there is considerable stock rearing and pastoral farming. About three-fifths of the arable land is cultivated by peasant proprietors, the tenants of small land-owners accounting for the remainder.

The cultivation of the mulberry and the rearing of silkworms is a highly important industry. Japan was the principal of the world's producers of raw silk; in 1941, she produced 45 million tons out of an estimated world production of 56 million tons. She was also able to meet competition from the United States of America by producing appreciable quantities of artifical silk.

Tea is grown largely for home consumption. Tobacco cultivation was a state monopoly. Other commercial crops are cotton, flax, hemp, and indigo. Japan also possesses a fairly large timber industry.

Fisheries

Fish is one of the main foods of the Japanese and fisheries have been

developed on a fairly large scale. Off Japan lies the warm Pacific current, the Kuro-Siwo or Black Stream of Japan, containing sardines and herrings, salmon and cod, and other food fishes. There are several large fish canning factories in operation, as well as an extensive shell fishing industry.

Mineral Wealth

Coal deposits are widespread, but the quality is not of the best. The principal coalfields are in the north and west of Kyushu, and along the Pacific seaboard in Honshu, lying to the northeast of Tokyo, the capital. Petroleum is found at Akita and Niigata, also in Honshu. At Wakamatsu, Kyushu, are large iron and steelworks, based on the adjoining coalfields.

Industrial Development

Japan's assiduous copying of the West, especially in military and industrial technique, had been stimulated in the main by fear of invasion and conquest by one or more of the Western Powers. In 1945, the giant industries that had supported her ambitious military drive south, to our own doorstep, were smoking, desolate ruins. Factories had been bombed and burnt out of existence, machinery lay rusting in the open, other factories and industries lay idle through lack of raw material.

Today, Japan is in the throes of industrial rehabilitation, development, and expansion. Its industry is better equipped than it has ever been, and its products acceptable in more countries than ever before. This industrial transformation and mobilization that is taking place is due to a number of factors — large scale American economic and financial aid, the Korean War, a worldwide economic boom, three successive record rice harvests, and lastly the hard work of the Japanese themselves.

Steel, coal and electrical industries are functioning again on an unprecedented scale. Steel products in 1957, totalled 8,170,000 tons and over £200 million has been spent in modernizing and expanding this industry alone.

Shipbuilding (and already Japan can produce up to 2¼ million tons gross per year — thus constituting a threat to Britain), heavy steel industries, aircraft construction (including jets), telecommunication equipment, electrical goods, textiles — all are enjoying an industrial boom.

From the southeast Asia area Japan buys rice, sugar, salt, iron ore, crude rubber, raw cotton, lumber, and countless other industrial materials. Conversely, countries of this area receive from Japan steel products, ships, all types of textile goods, rubber products, machinery, and other sundry items.

With the adoption of modern technology and advanced production methods, Japan's industry has succeeded in manufacturing high quality goods of every description, and tremendous strides have been made in the maintenance of high and uniform quality in all manufactured items.

Today Japan is about to enter entirely new industrial fields in a big way. Some of the new fields in which Japanese export drives may soon be expected are petro-chemicals, new synthetic fabrics such as nylon, orlon, terrylene, motor vehicles and aircraft.

Communications

Japan possesses an excellent railway network covering the whole of the country. It has improved considerably since 1945, until now it is one of the best in the world. The road system, although developed and expanded, is not all that it could be. Finance has limited the repair and improvement programme. The country has also an excellent highly developed telecommunication and radio network.

Japanese Military Forces

In 1945, after Japan's unconditional surrender, General MacArthur was

quoted by John Gunther ("The Riddle of MacArthur") as saying jubilantly that it would be impossible for the Japanese to rearm themselves for nearly one hundred years! Their Air Force had ceased to exist, the Navy had been broken up for scrap, and the Army had been scattered and absorbed by the civil population. The country had been combed for hidden weapons, museum pieces had been confiscated, and even the ancient art of Kendo (sword play) and archery were forbidden. Militarily, Japan ceased to exist.

With an uneasy peace in Asia, followed by the Korean War, "Rearm Japan" became the popular nation-wide cry. To leave Japan unarmed, and with the United Nations Forces fighting in Korea, would be too much of a tempting prize for Russia.

A National Police Reserve was formed, and the Japanese industries geared themselves to produce war material for the United Nations Forces. Once again, irrespective of Clause 9 to the 1947 "New Constitution", Japan was to possess military forces. The Peace Treaty signed at San Francisco on 8 September 1951, and ratified on 28 April 1952, recognized that Japan possessed the right of individual or collective defence. No limitations were placed on the extent to which she might rearm. Bases and the right to maintain military forces in Japan were granted to the Americans, but Japan would eventually have to assume full responsibility for her own defence.

The Japanese understand the problem of power. They know that a modern state, to be strong and secure, must be armed and completely industrialized. Financed in the main by America, Japan can and does, manufacture artillery pieces, mortars, machine guns, carbines, and all the munitions required by armies, and equally important, there is no shortage of manpower. Today she possesses an army, trained by a corps of professional American and Japanese officers, complete with modern weapons, and an understanding of the new techniques of warfare. The National Police Reserve has become a highly efficient, mobile, hard hitting army.

The Navy has expanded from small motor torpedo boats operated by a Maritime Safety Corps to a small, yet rapidly expanding, senior service. Dockyards and naval installations, once destroyed, are now rapidly being reconstructed, once again financed by the almighty American dollar. The Naval Academy, continuing its fine traditions, is turning out well trained and well disciplined officers.

The Air Force has been rejuvenated by "pep pills" in the form of fast new fighters, helicopters, and medium bombers. Training and development of the Air Force is perhaps a little slower than that of the other two services, yet nevertheless it is turning out efficient and competent pilots and ground staff.

The Red Sun of Japan has taken to the air once more.

Development and Research in Nuclear Physics

On 1 May 1958 Japan signed an atomic research and power agreement with the United States of America.

Later in the same month came the news that a member of the Japanese Meteorological Research Institute had established and confirmed a theory that would detect any attempt to keep a nuclear test secret, provided natural conditions did not interfere. This theory is of immense value to the anti-Communist powers, particularly when considering Japan's close proximity to Communist Russia.

There is already an exchange of atomic information between the United States and Japan, and Japanese nuclear physicists are working round the clock on further nuclear research and rocket development.

An experimental reactor is operating at Tokaimura, (north of Tokyo) and an

order has been placed for a Calder Hall type power reactor. But the Japanese make no secret of the fact that they don't expect to be importing reactors for long. Most foreign physicists agree that Japan is quite capable of producing atomic reactors for export within the next ten years.

With a modernized industrial plant, and the prospect of atomic energy supplementing and possibly taking over the existing power systems, it is hardly surprising that Japanese industrialists are optimistic about the future.

Japanese-Australian Relations

Australia has accepted realism in its recent expanded Trade Agreement with Japan. Already it is operating effectively with advantages to both countries.

Major benefits to Australia from this Agreement are —

(a) Japan gives support in the wool market (its solid buying actually preventing collapse of the Brisbane Wool Market in May last year!)

(b) Important new Japanese markets have been found for wheat and sugar.

(c) Smaller but nevertheless useful outlets had been found for dried vine fruits and dried milk.

(d) A substantial development of Australian coal exports to Japan.

(e) Export of dairy produce, including top grade dairy stock.

(f) Goods exported from Australia during the last twelve months reached a value higher than the average £94 million.

In February and March 1959, Japan staged a trade fair in Melbourne, where top quality Japanese goods, including optical instruments, industrial machinery, and textiles were on show.

Conclusion

Today Asia and the Pacific provide the setting for a bitter and portentous game of power politics. In Indonesia and China fire and sword are already at play — armies are on the march — powerful fleets are manœuvring in shows of preparedness and bluff — gigantic bombers roar over the ocean in grim warning of tomorrow's raids.

Out of the diplomatic mills of each nation emerge the "new orders", "vital interests", "self defence pacts", and "policy of non-aggression". The zero hour, although hastened by World War II, has still to come. A new balance of power is to be established in the Orient, and once again Japan is destined to play an important role in the formation of a "new Asia". Both the Communist and the non-Communist *blocs* are wooing Japan. Which way will she turn?

Sauce For The Gander

MAJOR REGINALD HARGREAVES

British Army, Retired

Verily, when blind men guide we lose our way.

— Arab Proverb

IT is a point of conjecture whether tackling only one-half of a problem is not, in the long run, even more dangerous than ignoring it altogether.

This is an issue which has been given particular pertinence by the publication of a work(1) dealing with the present-day education of senior officers of the armed forces for policy roles. That such a course of instruction is highly necessary under modern conditions is scarcely to be denied. For in these days the distinction between politics and strategy diminishes progressively the nearer to the summit it approaches.

Until relatively recent times the small but devoted band of American military and naval officers — like their British counterparts — were largely insulated from the policymakers whose decisions governed their actions. They received their orders after no more than perfunctory consultation with the relevant State Department as to their validity and the feasibility of carrying them out with the means available.

With the wider responsibilities assumed by the United States in her onerous role of leading world power, the decision that the service chiefs should participate in the formulation of policy, and, on occasion fulfil politico-military assignments, is no more than elementary wisdom at a time when the prehensile aims of Communist-imperialism have turned the entire globe into an armed camp. It is only with full knowledge of a given policy's objectives, as well as the limitations of the current logistical background — that is, the monetary, industrial, and technological resources available — that the military leaders can organize the fighting forces appropriate for the support of a predetermined line of action. Diplomacy can never be stronger than the armed force held in readiness to implement it.

It follows that if the military are excluded from policy formulation, it can only be by a happy accident that they have the appropriate armed might available at any given moment. Unless you know what is in another person's mind, you cannot intelligently anticipate his needs, only guess at them. And in international affairs, guessing is dangerous.

It can be said of this half of the problem, therefore, that it is being dealt with practically and on sound, constructive lines.

The Other Side

But what of the other half? After all, "what's sauce for the goose is sauce for the gander". Therefore, it is perfectly reasonable to inquire what steps are being taken to educate the civilian policymaker in those military facts of life, without a good working knowledge of which all his planning adds up to little more than rootless academicism.

(1) Soldiers and Scholars. John W. Masland and Laurence J. Radway. Princeton University Press, Princeton, New Jersey.

It has been and remains one of the peculiarities of the politician that he has only to be appointed to executive office to start laying down the law on matters it has taken his military subordinates a lifetime of study and experience even partially to master. Automatically esteeming himself an expert on matters for which, prior to his assumption of office, he had scarcely spared a thought, his intervention on the practical level of policy implementation oftentimes is ill-informed and frequently attended by the most disastrous consequences. Indeed, the spectacle of the supremely confident but militarily uninstructed politician overruling the martial decisions of his service advisors is reminiscent of nothing so much as a guinea pig trying to instruct a squirrel how best to manage its tail. Yet it is a spectacle which history has witnessed countless times.

In the War of Independence, for example, the Board of War tabled the fantastic suggestion that a new set of generals — to be nominated by themselves — should be entrusted with the command every six months. Even Benjamin Franklin — of all people — betrayed his usual good sense by recommending the substitution of bows and arrows for the musket as a feasible measure of economy.

On the British side a plan was formulated to cut off the New England States by an advance of a body of troops from Canada at the same time as another contingent moved up the Hudson, the point of juncture being Albany. The co-ordination of this design was left to Lord Germain, the British War Minister in London. As it transpired, orders were duly drawn up and forwarded to "Gentleman Johnny" Burgoyne in Quebec. But those for "Goodnatured Billy" Howe in New York were never dispatched. The "fair copying" not having been completed at the hour at which my Lord Germain elected to leave his office, the dispatch could not be signed. By the time the Secretary for War returned to town the documents had been shuffled out of sight, and thereafter were forgotten completely. So Howe marched off to capture — and be captured by — Philadelphia, while Burgoyne struggled through the North American wilderness to meet overwhelming defeat at Saratoga.

Henry Dundas

Less than a couple of decades later, with the French Revolutionary forces in Flanders confronted with the armies of the First Coalition, the activities of the British contingent suffered perpetual blight owing to the "inspired" intervention of Henry Dundas, Secretary of State for War. After the fall of Valenciennes, the road to Paris and victory over the forces of subversion lay wide open. But as the Allied field commanders were on the point of launching their drive at what Clausewitz described as "the pit of the French stomach", orders arrived from "Scotch Harry" which countermanded the stroke and committed the British troops to a 100-mile march right across the face of the enemy forces — a manœuvre that any "shavetail" would rightly regard as an open invitation to disaster.

Behind this egregious directive lay a plan to "make the war popular" by capture of the port of Dunkirk, an entirely unnecessary venture since the Allies already enjoyed access to the far more capacious port of Antwerp. For once the responsibility did not rest on "Scotch Harry's" shoulders, but on those of Lord Chancellor Loughborough, an individual whose only claim to attention hitherto had rested on his entirely ineffectual attempt to browbeat Benjamin Franklin.

Lacking in anything like adequate naval support — that had been overlooked — the enterprise against Dunkirk turned out a costly failure, as was only to be expected. Typical of "Scotch Harry's" efforts to bolster it up was the dispatch of a newly enrolled and entirely untrained regiment as a reinforcement to the beseigers. It was only when the

men had been hustled aboard their transports that they were discovered to be unprovided with either weapons or equipment.

With this exhibition of muddle and ineptitude developing before their eyes, it was asking a lot of the military leaders to abide by the rule cherished by all democratic regimes — that in any matters of dispute the decisions of the civil executive must override the designs put forward by the soldier.

At the other end of the same theatre of war, be it noted, when a Representative of the Convention sought to interfere with the dispositions of the 23-year-old artillery colonel, Napoleon Bonaparte, he met with a very dusty answer. "Attend to your own business", the little Corsican told him brusquely, "and leave me to mind mine. This battery will remain where it is; and I will make myself responsible for its success".

In this instance, at least, the military man's repudiation of ignorant civilian interference was justified fully by results.

In 1802 the extremely shaky Peace of Amiens, which even George III had the commonsense to perceive was no more than "an experimental peace", offered sufficient excuse for the Pitt Administration to indulge in the favourite activity of all democratic governments — swinging cuts in all the country's armed forces. These reductions were carried through on so comprehensive a scale, and at such a rate, that when hostilities broke out again 14 months later, Britain was hard put to it to scrape together sufficient troops to man her coasts against invasion.

As General George C. Marshall wryly commented, "History has repeatedly proved that it is not with the brass hats but with the brass heads that the danger to a country lies". Indeed, it takes a degree of military education to which the politician can rarely be persuaded to submit himself, to realize that "the wise man may lay aside his arms, but he does not fling them away".

In effect, so far as the Allies were concerned, had the civil administration troubled to inform itself of the elementary principles by which warfare must be conducted, victory over the forces of disruption could have been achieved in 1794. As it was, another 20 years of costly and avoidable war had to be endured before the military succeeded in defeating both the enemy abroad and the obstructionists in their respective cabinets. As Cicero never ceased to emphasize, "Valour in the field is of small use unless there be wise councils at home".

Later Examples

The reluctance of the politician to acquaint himself with the rudiments of the military art and the measures to be taken to ensure a sound posture of defence is not a characteristic peculiar to the 18th century. More recent times have been generous in instances of an unfamiliarity with "the other man's job", and what it entails, of which the people's representatives have been guilty.

At one moment during the course of the War Between the States, Secretary Stanton issued an order that all the Union forces in contact with the Confederates should attack on a duly specified date, wherever they might be, and regardless of the local tactical situation at the time.

At the outbreak of the Spanish-American War, wholly unjustified fears of the enemy capacity to raid the ports and commerce of the United States' Atlantic coast led, through misguided political pressure, to the dissipation of the country's extremely limited naval resources in inadequate screening forces. This was in direct disregard of the professional advice tendered by the Naval War Board, well aware that "to try and defend all is to end by defending nothing". The situation was remedied ultimately by the Spanish Admiral Cervera's inability to develop any threat in American waters, rather than through a sudden accretion of informed intelligence on the part of the State Department concerned.

Pleas Ignored

Meanwhile, all General Shafter's pleas not to crowd the military camps with unwanted volunteers — who could be neither housed, equipped, nor trained — had been ignored. It was "bad politics" to deny enlistment to thousands of eager patriots. Needed or not they must be encouraged to join the colours, even if many of them did not get into uniform.

A quarter of a century later the politicians' approach to the technicalities of warfare exhibited a similar ignorance of the basic fundamentals of strategy, tactics, and the means employed against an enemy.

In 1915, for example, at the height of the scandal over the shortage of high-explosive shell on the Western Front, two British Parliamentary representatives, Mr McMaster and Mr Shirley Benn, were sent over to France especially to inquire into the matter. The depths of the knowledge of matters military they brought to their responsible task was bleakly revealed when McMaster solemnly inquired of Sir Douglas Haig if the British artillery "still used the round cannon ball".

Lloyd George

With Premier Asquith's supersession by David Lloyd George, it was speedily brought home to those in responsible military command that the great Wallenstein was not exaggerating when he pronounced that, "A commander in the field can always be sure of more war with the Ministries than with the enemy". Although Lloyd George was unfamiliar with even the elementals of strategy and logistics, he was much too cocksure and impatient to lend himself to instruction. In consequence, he bedevilled the entire course of the war with schemes for furthering operations of such fantastic impracticability that they seem incredible in retrospect.

If he was not advocating gradiose flank attacks on the Western Front by way of the pathless Julian Alps, he was pressing for an amphibious landing on the Baltic coast to drive at the German flank and rear. The fact that troops are unable to operate in a roadless terrain in which it is impossible to transport supplies was as lost on him as the consideration that an amphibious expedition demands an enormous mass of shipping, such as was never available throughout his tenure of office.

Thwarted where these two grotesque projects were concerned, his next proposal was to transfer troops from the stagnant winter front in France and Flanders for operations elsewhere under less hampering meteorological conditions. The objection that the transport of even a couple of divisions, with their supplies, would demand more shipping than he could ever hope to lay his hands on, in no way served to abate his enthusiasm. In the outcome, considerable bodies of troops laboriously were transferred to the Balkans where they remained virtually inactive, while dying off like flies from the prevailing scourge of malaria.

It is, indeed, more often in their unillumined approach to the logistical implications of a suggested venture, than in their miscalculations regarding the capabilities of the troops themselves, that the politicians betray their innate inability to grapple with reality.

World War II

The personal relationship between the service chiefs and the leading members of the Administration was a good deal less strained in World War II than in the earlier conflict. Generally speaking, too, there was a greater tendency to place reliance upon the professional counsel tendered by the chiefs of staff appointed to advise how best to translate policy into terms of strategy.

For all that, it was a very clouded military vision which encouraged Mr Chamberlain to greet the Fuhrer's successful Norwegian coup with the comment, "Hitler has missed the bus".

Thereafter, the futile attempt to sustain Norway with inadequate forces, further handicapped by insufficient air cover, offered a striking proof that political expediency is the Judas of sound strategy.

Even less excuse can be advanced for that admixture of sentimentality and strategic myopia which committed a British expeditionary force to the attempted "preservation" of Greece. For this was contrary to all measured military counsel, and in the teeth of the Greeks' own comprehensible reluctance to court reprisals by going through the short-lived motions of being "rescued".

In the outcome a considerably harder fate was visited on the Greeks than they might otherwise have incurred. In the Western Desert, General Wavell, who had hitherto swept all before him, being left with little more than a corporal's guard, was hurled back on the defensive. Singapore fell for want of the planes, men, and supplies frittered away under the shadow of the Pindus Mountains. The unprotected capital ships Prince of Wales and Repulse were sunk for lack of the fighter cover that had been sacrificed uselessly in Thessaly. The aftermath of Crete and its costly evacuation gravely threatened Britain's precarious hold on the eastern Mediterranean, and turned the Indian Ocean into an enemy lake. Through his humiliating defeats in the Far East the white man "lost face" to so serious a degree that it is questionable if his prestige has not vanished for all time.

Later Stages

In the later stages of the war a clearer insight into the military implications involved undoubtedly would have restrained the Allied leaders from declaring, without consultation with their chiefs of staff, that a defeated Germany could only secure peace on the basis of unconditional surrender. As Geyer von Schweppenburg has cogently pointed out, such an ultimatum provided "a welcome buttress to the already crumbling Hitler system." The atom bombs dropped on Hiroshima and Nagasaki undoubtedly had the effect of preserving many American lives from the injury and death attendant on the invasion of a hostile land. From this total, however, must be subtracted the sum of those lost by the prolongation of the war in Europe, begotten of this selfsame formula of unconditional surrender. For it scarcely needs a Francois Rabelais to remind us that "You should never drive your enemy to despair; a desperate people will sell their lives as dearly as a desperate man."

Thereafter, it was a purely policy decision — that ignored the immediate military as it did the long-term post bellum aspects of the problem — which induced the Allies to leave the capital of the Reich as an island in the Russian sea: an error which led in due course to the emergency measure of the Berlin Airlift.

Equally, it was a political decision, without regard for the military considerations involved, which halted General MacArthur's bomber force short of the Yalu riverline — a directive which led ultimately to the substitution of stalemate for outright victory.

These, of course, were decisions arrived at on the highest executive level; and not to be gainsaid if it is accepted that "in the decisive moments of history the ideas of the statesman must take precedence of those of the soldier." It is permissible to submit, however, that had the policy-makers concerned added to their natural gifts a sound training in military affairs, their decisions might well have been considerably more constructive and farsighted.

Need to Know

Students at Washington's National War College include members of the State Departments as well as officers of the fighting forces, and the same is true of the equivalent British Imperial Defence College. By this means an admirable opportunity is presented to certain

elements among the policy-makers to assimilate much of the military "know-how" which is essential to the efficient discharge of their responsibilities.

So far, so good, but the scope of the experiment could be expanded greatly with considerable advantage. For example, it would be of the greatest value were State Department representatives, on a generous scale, attached for a period of instruction to operational fleet units and active service Army, Marine Corps, and Air Force formations "to see how the wheels go round" on the spot. As the celebrated Roman General Lucius Paulus said of the civil representative of his own day; "Let him be furnished with a ship, a horse and a tent. But if he thinks this too much trouble and prefers the repose of life . . . let him not assume the office of pilot."

A little thought renders it clear past and peradventure that concentration on the wider indoctrination of the "career man," the permanent State Department official, would be likely to yield by far the most fruitful and enduring dividends. In the long run effective power rests less with the ephemeral politician than with the permanent official. Ministers come and ministers go in all administrations. Whatever the dominion they may exercise throughout their temporary overlordship, the real authority resides with the individual who enjoys continuity of service, the State Department "career man," who serves as guide and mentor, goad and brakesman to his hierarchical superior.

Not that the power and influence of the man holding ministerial office — whatever the duration of his trusteeship — is to be underrated. Policy can be revitalized, or sent right off the rails, in a remarkably short space of time.

What, then, can be done with the ministerial policymaker of today, too senior — and maybe too complacent — to submit himself to the laborious process of expanding his grasp of the fundamentals of military logistics and doctrine?

What can be done about the great mass of Congressmen and members of the British Parliament from whom the hierarchy must periodically be replenished? What scheme exists for their highly essential instructions in the fundamentals of the military art?

It would seem that no provision for study and enlightenment has been made at the level where it is most pressingly needed. Omniscience still is all too readily taken for granted. But what reason have we to believe that the alleged omniscience of today differs in any material respect from the dilettantism of yesterday.

Conclusion

The need for a full and knowledgeable appreciation of what the military can and cannot do, and the minimum means required to carry policy decisions into execution, has never been more urgent and acute. If the military are willing and ready to play their part in seeking a wider understanding of "the other man's job," they have a right to expect that the politician should respond by lending himself to reciprocal instruction.

A branch of the General Staff College solely devoted to instructing politicians in the fundamental (military) facts of life would much more than justify itself — providing always that the attendance of anyone earmarked for ministerial office were made compulsory.

We live in parlous times; and only through a mutual understanding can we build the politico-military team so necessary for the preservation of the principles upon which the free world is based.

SEATO - - -

From the Philippines Point of View

Condensed from an article by the HONOURABLE JESUS VARGAS, Secretary for Defence, Philippines, in the *Philippines Armed Forces*

A weapon is simply an instrument of man's will, intelligence and passion. It is often the final instrument of arbitration among men and nations. When understanding is beyond reach, when passion over-rules reason, when integrity and pride demand vengeance and when safety demands the frightful decision — the weapon is wielded.

The United States has the nobility and charity to lead that half of the world with the right cause and the moral aspirations — the free world, as opposed to the sordid and colonial world of Communism. The free world is composed of both great powers and small nations. The small nations obviously depend on the big powers for more than moral support; but the relationship is not as definite as it seems. The nature of total war, the limitations of physical forces to decide a conflict, the relations of bases and weapons in the concept of guided missiles — all these have placed the major powers in positions of great and critical dependence on the continued friendship, strength and democratic spirit of small nations like the Philippines. This development has naturally and inevitably lent itself to the establishment of collective defence systems. This affair provides the background for the discussion of weapons. It is obvious that any member-nation of a collective defence system which contemplates the unleashing of forces must include in its deliberation the attitude of its fellow-members. Fortunately, the decisions to be made in the event of a given contingency have already been pre-ordained in the wordings of treaties.

Today, we have various collective defence systems — the North Atlantic Treaty Organization, its counter-part in the Mediterranean, and the Southeast Asia Collective Defence Treaty. We have also several bilateral defence agreements such as that between the Philippines and the United States.

We will recall that this country was among those which pioneered in the idea of a collective defence system for free Asian nations, and the eventual establishment of SEATO. The Philippines, which initiated this united front against Communism, has herself suffered the ravages of that evil ideology. In moving for the establishment of SEATO, therefore, we were not merely seeking to imitate NATO. Our motives were based on valid predictions that stemmed from incontrovertible experience. The fact that SEATO has restored stability to the area should prove that the decision was a mature and sound one, and was truly demanded by the situation.

Threats of Communism

The Communist menace in Asia is composed of both armed threat and subversion, with extremely active emphasis on the latter. Against both SEATO provides for defences.

The Communist armed threat has so diminished, because of SEATO, that this region is experiencing its most peaceful

era since the end of World War II. Significantly, the only violent incident in these times — in Indonesia — is purely an internal affair, although of course, the Reds are already taking advantage of the confusion in that country to strengthen and improve their positions. The deterrent effect of SEATO is obvious when one remembers the situation, especially in Malaya, Thailand, Vietnam and Korea, before the Treaty's inception. This does not mean, however, that we are relaxing our vigilance or have grown complacent. It is a fact that the military authorities of SEATO have already evolved broad strategic plans to counter Communist armed aggression in any member country or the protocol states of Laos, Cambodia and South Vietnam, who are also eligible for SEATO assistance. We have completed ten military manœuvres covering the ground-sea-air dimensions of combat, with units ranging over the entire treaty area. In addition, member nations have gone on bilateral military exercises. There is a steady interchange of student officers and enlisted men among the armed forces of SEATO countries. Thus has the military preparedness of SEATO developed in four years.

These constant military activities have served not only to keep in fighting trim the military component themselves. For the free peoples, confidence in their future, and security in their present state have been created. For the enemy, designs for conquest have been checked, and intentions to violate borders have been considerably dampened. The threat remains, but the Reds' awareness of our vigilance and our dedication to our cause has served as a major deterrent. I for one am convinced that if Asia today is enjoying a respite from Red intimidation by force, it has been because of SEATO. We have, therefore, attained an appreciable degree of security. But SEATO is meant for more than security. Prime Minister Robert Menzies of Australia put it succintly this way, and I quote: "We are not thinking of security, of mutual defence, as something that lies on front of a strategic community. Security, a vital pre-condition as it is for those other things, is not an end in itself. Security is the beginning, and what comes after it is all that social, economic, and political development — the development of the full resources of our people".

SEATO Activities

In well-fed and intelligent Europe, you will notice that the Communist threat is through violent intimidation plus infiltration. In the Middle Eeast and Asia, however, there is the addition of: first, economic offensives both by Russia and Red China; second, the encouragement of neutralism by the presentation of the false premise that joining other nations in collective defence is inconsistent with national independence and harmful to national integrity; third, by intensive propaganda aimed at the ignorant mind which is tempted by the false Utopia of Communism, the "no-rich-no-poor" idea. In Europe, Communism presents itself as a formidable and irresistible power; in the Middle East and Asia, it comes disguised in dignity, a personage with charm and promise, a new friend to change for the old, a new system to be favoured over old cultures and traditions and, more alluringly, a friend to those in need. An indication of the intensity of subversion is the fact that requests received at SEATO headquarters from member-nations for advice on how to combat Communist subversion, have doubled within the past year. This does not necessarily mean that subversion has been a success. Rather, it means that SEATO's dependability has been proven. It shows that member-nations are aggressively concerned about their freedom, and it serves warning to the Communists that none of their tactics are too subtle to pass unnoticed. SEATO has working committees that are constantly appraising the Communist threat and the subversive situation, noting the most delicate shifts, and sensitive to the most delicate tint of Red in any activity.

On the economic plane, the member-nations, particularly the Asian members,

have progressed satisfactorily. This notable rate has been made possible by self-help and by aid from affluent members. Millions of dollars and pounds have been thrown by the great powers into the development of Asian industry, technology and public works. This increasing economic aid has been matched by technical aid as Australia, the United States, France, New Zealand and the Philippines continue to send technical experts and receive or train droves of technicians. The Philippines is particularly active also in training personnel of other Asian nations, particularly in the anti-subversion and police fields. This year will see the implementation of a SEATO-fellowship plan designed to increase more profound understanding among member-nations about culture, economics, and political institutions with the end in view of rendering closer the ranks of free Asian peoples.

A SEATO Committee of Economic Experts is meticulously studying the economic problems of individual nations and formulating plans for their solution. A committee on Cultural, Information, Education and Labour Activities is as active in their respective responsibilities. With this constant activity sustained at a feverish pitch, no national activity, institution or property is left unguarded for Communism to exploit; more important, not one of these is ignored in the efforts to progress. Thus, SEATO countries counter subversion by gaining strength, the better to depreciate the temptations of Communist propaganda, the better to appreciate the fact that in choosing to defend democracy they have chosen to lead an unequalled way of life.

SEATO has been a fairly substantial success so far and there is every indication that it will continue to be so. The term success does not carry the full implications of the feeling that it should generate unless we consider that it actually means a triumph in war. We are actually at war. That the Communists have sought to covet us and that we are constantly repelling them is not secret. The Communists' covetousness is being expressed in a real attempt to conquer Asians and the rest of the Free Peoples, through subversion. And let there be no mistake about it: subversion is a method of aggression with the same ends as the use of destructive physical weapons.

Neutral Countries

What the neutralists fail to realise is the obvious nature of the cause of tension. Liken SEATO to a wall, and liken Communism to an onrushing flood of lava pressing against that wall — which side creates the tension, the immobile or the mobile, the defender or the aggressor?

Paradoxically, it is in the neutral countries that strife exists. Look at the internal conditions of neutral countries in the Middle East and in Asia, and compare them with the conditions in Pakistan, Thailand, South Korea and South Vietnam. These latter countries are all within spitting distance of Communist China and yet, because of their collective or bilateral defence systems they are left secure to pursue their own destinies.

Neutralists are as vocal as countries like the Philippines in avowing and upholding democratic institutions. But, we are aware of the fact that a nation must come to a decision; it must choose sides in this battle between two camps. If we believe in God, if we believe in the rights of man to dignity and happiness, if we believe in the right of the individual to lead his life the way he chooses, then we must defend those rights actively, and openly stand opposed to those who wish to detract therefrom or totally negate them. We cannot, in conscience and morality, avow beliefs and convictions without militantly, aggressively and unequivocally asserting them to our maximum capabilities. If we do less than this, then it would mean lack of moral strength on our part, and the lack of courage to defend our convictions. Our siding with the free

world, therefore, is both a mandate of first-hand experience and a direct expression of Filipino character.

Unless the Communists are willing to start another all-out war, they dare not attack the smallest country which happens to be enjoying the collective strength of other nations — a guarantee and deterrent that no neutralist nation enjoys. But our interest in SEATO is more far-reaching than this, for it is also an instrument of progress. SEATO means security and aid for the peoples working for their future. It has proven to be truly such during its brief existence, and we see no reason to waver, alter or modify our faith in it in the least.

Articles Published Overseas

The undermentioned articles, published originally in the Australian Army Journal, were reprinted in service journals overseas during the year 1958.

Article	Author	Journal in Which Reprinted
A New Nature of War	Maj R. Vardanega	Military Review, USA
Army Officer — Mercenary or Missionary	Lt-Col A. Green	Pakistan Army Journal
Communist China	Sgt P. G. Gittins	An Cosantoir, Eire
Filesmanship	Lt-Col G. D. Solomon	An Cosantoir, Eire
Graduated Deterrent	Col K. Mackay	Military Review, USA
Guerilla Warfare	Maj C. H. A. East	Pakistan Army Journal
Guerilla Warfare	Maj R. F. Rodgers	Military Digest, India
Leadership in Management	Field Marshal Sir William Slim	Military Review, USA
Logistics are Logical	Lt-Col A. Green	Military Review, USA
Military Approach to Child Delinquency	Lt-Col H. Fairclough	An Cosantoir, Eire
Nuclear Warfare	Capt K. E. Gallard	Military Review, USA
Operation Kadesh	Editor AAJ	An Cosantoir, Eire
Rise to Power of Communist China	Capt D. H. Morgan	Pakistan Army Journal
Trainfire	Maj B. S. O'Dowd	An Cosantoir, Eire
Training the Jungle Shot	Sgt J. Vezgoff	Military Digest, India

Australian Tariff Policy — Its Relation to Production and Defence

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THE Government's policy is to provide adequate protection for efficient and economic local industry.

"Efficient" and "economic" are admittedly somewhat elusive terms. They are not absolute. They do not lend themselves to precise measurement. But this does not mean that this is not a useful and workable concept in the context of tariff protection for Australian industry.

Despite the lack of precision in the concept, it is possible to form a judgement on whether particular industries are efficient and economic, although with greater ease and certainty in some cases than in others.

To illustrate — there is no doubt about the efficiency and the economics of steel production in Australia. There would be considerable doubt about the economics of producing large commercial jet airliners in Australia at this stage of our development, no matter how efficient the actual production might be.

Whether production is "economic" or not is particularly important where the industry concerned is one in a chain of industries.

The Tariff Board

The application of the concept of efficient and economic production calls for careful analysis and sound judgement. This is one reason why successive Governments have leant heavily on advice from the Tariff Board when formulating decision on tariff matters.

The Board is a body of highly qualified and experienced men who are able to devote their whole attention to such matters. It is in a position to obtain detailed factual information not available to other persons or bodies, and its accumulated experience over the years has enabled it to sort out the fundamental issues in many complex problems.

Tariffs and Costs

There can be no absolute reliance on tariffs for the protection of Australian industry. It follows that tariffs will not be used to protect inefficiency. Industry must, therefore, set its own house in order before seeking tariff assistance. It can do this by taking all means within its power to reduce costs.

But tariffs recognize that individual industries have little or no control over certain elements in their costs. For instance, they can do little about the higher costs which flow from the relatively limited Australian market for many products. Their wage costs are largely imposed on them by awards and the like.

There is also another side to this question of costs. Because the products of one industry are often the raw materials or components of another, anything which affects the cost of one product has its repercussions throughout the economy. This is particularly so with any increase in costs of basic materials. Such increases have a cumulative effect and tend to be built up as they enter into later stages of production.

This is just as relevant to tariffs as it is to other factors which affect costs and prices.

These are only a few of the implications which must be considered when dealing with questions of tariff protection. They are, however, probably the more important. They do show that it is not possible to formulate a set of precise measuring rods which could be applied to each and every case. To this extent tariff policy is akin to general economic policy of which it is, of course, a part.

Each case for tariff protection must, therefore, be considered on its merits in the light of judgement made on the efficiency of the particular industry and the economics of local production of particular commodities. In all its policies the Government aims at the continuance of a steady rate of development in both primary and secondary industries. It, therefore, places great importance on the protection of existing and proposed new industries.

The tariff is the main instrument available for the furthering of the Government's aims in this direction. In particular, protective duties enable efficient and economic producers to meet import competition. They also enable industry to plan on the volume basis which is the very essence of low cost production and increased competitiveness and stability. Additionally, stability in industry means stability in employment. However, the closer we approach a more complete pattern of industrial production in this country the more significant and critical becomes the cost of each product to subsequent users in the chain of production. This is clearly one of the important aspects on which the Tariff Board, with is accumulated experience and wisdom, is in a sound position to advise the Government.

The Board is, of course, aware of the need for continued development on the one hand and the need to compete on world markets on the other.

Exports and Employment

Australia is one of the biggest exporting countries in the world. Our ability to employ a growing population is to a large extent dependent on our ability to produce and export profitably a steadily increasing volume of goods. Unless we do this we will be unable to finance the plant and basic materials which we must import for our developing secondary industries.

Our population has increased by 25 per cent in the last 10 years. Expansion in secondary industry has contributed in a very considerable measure to our ability to absorb and employ the increased work force.

Employment in manufacturing in now over the million mark, and constitutes nearly 30 per cent of the work force as against little more than 20 per cent before the war. The number of factories and the volume of factory production has increased in roughly the same order.

In fact, it can be said that secondary industry is now the principal field for providing employment. It provides a sound base of regularly paid employees, thereby offsetting some of the instability of rural purchasing power which follows climatic and export market fluctuations.

Our sound and expanding secondary industry is an indication of growing national adulthood. It is also indispensable to defence policy, which must

in today's conditions be founded upon and backed by a firmly based industrial set-up with a wide range of production and the essential technical knowledge.

Changing Pattern of Exports

Inability to export could become a factor limiting our continued development. Historically Australia has relied on primary products for export income. This traditional export pattern has a certain inherent instability. As is well known, world prices for primary products are uncertain and fluctuations in those prices can seriously affect the economies of primary producing countries. Additionally, there are the problems of marketing primary products in the face of policies of rampant agricultural protectionism and subsidized exports followed by some nations.

Secondary industry itself has a considerable stake in this problem of exports. It is not as widely recognized as it should be that expanded industrial production has increased our demand for imports rather than lessened it. Not less than three-quarters of all imports into Australia today consist of capital equipment and materials.

In fact more than half of our imports are materials used directly in Australian factory production.

More Exports Vital

It is critically important to the nation and to industry that our exports earn sufficient overseas exchange to meet our import bill. If the necessary imported materials are unavailable, industry cannot continue to employ our growing work force. This is a serious prospect. But given the necessary application to essential tasks by all concerned, it need never arise.

There is now recognition on the part of secondary industry of the necessity for it to play a greater part in developing exports. Exports of manufactured goods have doubled in the last five years. Their value reached a peak of £109 million in 1956 - 57, but that was only 11 per cent of our total export earnings.

This emphasizes the difference between the amount of overseas exchange that secondary industry earns by its exports and the amount needed to pay for its import requirements.

Expanding Economy

Australia supports an expanding economy firmly based on a diversified industrial production and a steadily increasing volume of exports. This will provide greater national security and increased employment opportunities for our growing population.

BOOK REVIEW

THE CAUSES OF WORLD WAR THREE, by C. Wright Mills. (Martin Secker and Warburg, London, and 317 Collins St, Melbourne).

IN this book of 176 pages the author, described on the dust jacket as one of America's foremost sociologists, sets out to demonstrate that World War III is inevitable simply because the political leaders in the USA and the USSR neither want to nor are capable of avoiding it.

Mr Wright's main theme, though not always easy to follow through the maze of his somewhat obscure phraseology, appears to be that both the USA and the USSR are ruled by "power elites" which are not subject to democratic control of any sort. While this is true of Russia, indeed it is implicit in Marx-Leninist philosophy, the contention that it is also true of America is more than a little far fetched. In analysing the American political scene in order to produce a picture of a small group of military men, financiers and industrialists wielding absolute power, Mr Wright grossly over-simplifies his argument. Even if one fully accepts his argument, one still has to imagine these men to be completely devoid of any sense of responsibility, to be oblivious to every consideration except their own self-interest. Moreover, since on Mr Wright's own showing, the pursuit of this self-interest is bound to lead ultimately to the utter destruction of that self-interest, his analysis of motives becomes obscure, and whatever logic his argument might possess stops short of its final conclusion. If the men he describes are as clever as he makes them out to be, it is asking a lot of the reader to believe that they cannot see the final effect in the chain of causation they are alleged to be manipulating.

Mr Wright rests his whole thesis on a purely materialistic basis. He makes no mention of the deeper issues — the wide ideological divergence, the irreconcilable concepts of humanity — that divide the Communist world from Western civilization.

Mr Wright has many harsh things to say about the statesmen of the West, and only a mild, indirect rebuke for the hierarchy in Moscow. He has much to say about what the West ought to do to break the impasse he depicts, and nothing at all to say about what the Communists ought to do. All the "bad-un's" appear to be on our side. And in his preoccupation with abstract theory he blandly ignores some concrete facts like the rape of Hungary.

This is a difficult book to read and it doesn't get you anywhere.

— E.G.K.