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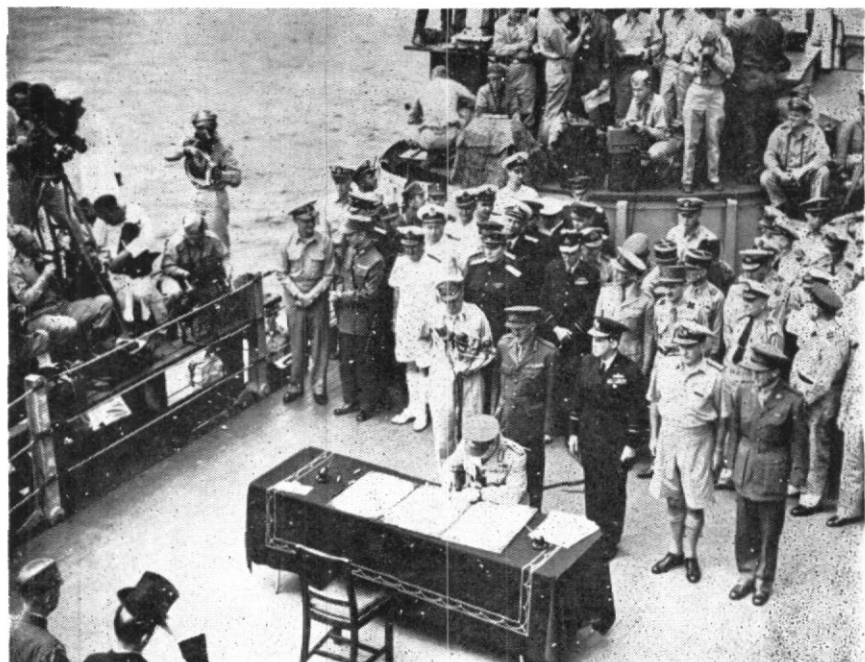
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The views expressed in the articles in this Journal are the authors' own and do not necessarily represent General Staff opinion or policy.



(Australian War Memorial)

On 15th August, 1945, the war in the Pacific, which had begun on 7th-8th December, 1941, with Japanese landings in Thailand and northern Malaya and surprise attacks on Pearl Harbour and elsewhere, came to an end. The surrender took place on the USS *Missouri* in Tokyo Bay on 2nd September, General Blamey signing the surrender document on behalf of Australia. Immediately in rear of General Blamey (seated) are General MacArthur and the other Australian representatives — Lieut.-General Berryman, Air Vice-Marshal Bostock, Rear-Admiral Moore, and Lieut.-Colonel Dwyer.

AMBUSH KNOLL:

A CLASSIC DEFENCE

Lieutenant-Colonel R. S. Garland, MC
Royal Australian Infantry

Introduction

THE FIGHT FOR Ambush Knoll took place in July 1943 during the Salamaua Campaign. The 2/3rd Independent Company attacked and captured Ambush Knoll on 15th-16th July, without artillery or air support with a force of about sixty soldiers from an equal number of well-entrenched Japanese.

In the defensive battle that began three days later, Ambush Knoll was held by about forty members of the Independent Company. The Japanese launched twenty bitter assaults between the 19th and 23rd July

The author is Commanding Officer of the Infantry Centre at Ingleburn and a distinguished fighting soldier. He was awarded the Military Cross when he led the attack on Arnold's Crest on 1st September 1943, at a later stage of the Wau-Salamaua campaign, and a Bar to that decoration as a company commander in 2 NGIB for outstanding leadership during the operations that culminated in August 1945 in the capture of Kairivu airstrip, on the edge of the area where the Japanese XVIII Army intended to make its last stand in New Guinea. He received the M.I.D. for service at Sungei Siput during the Malayan Emergency.

A longer biographical note appeared in the May issue of the journal.

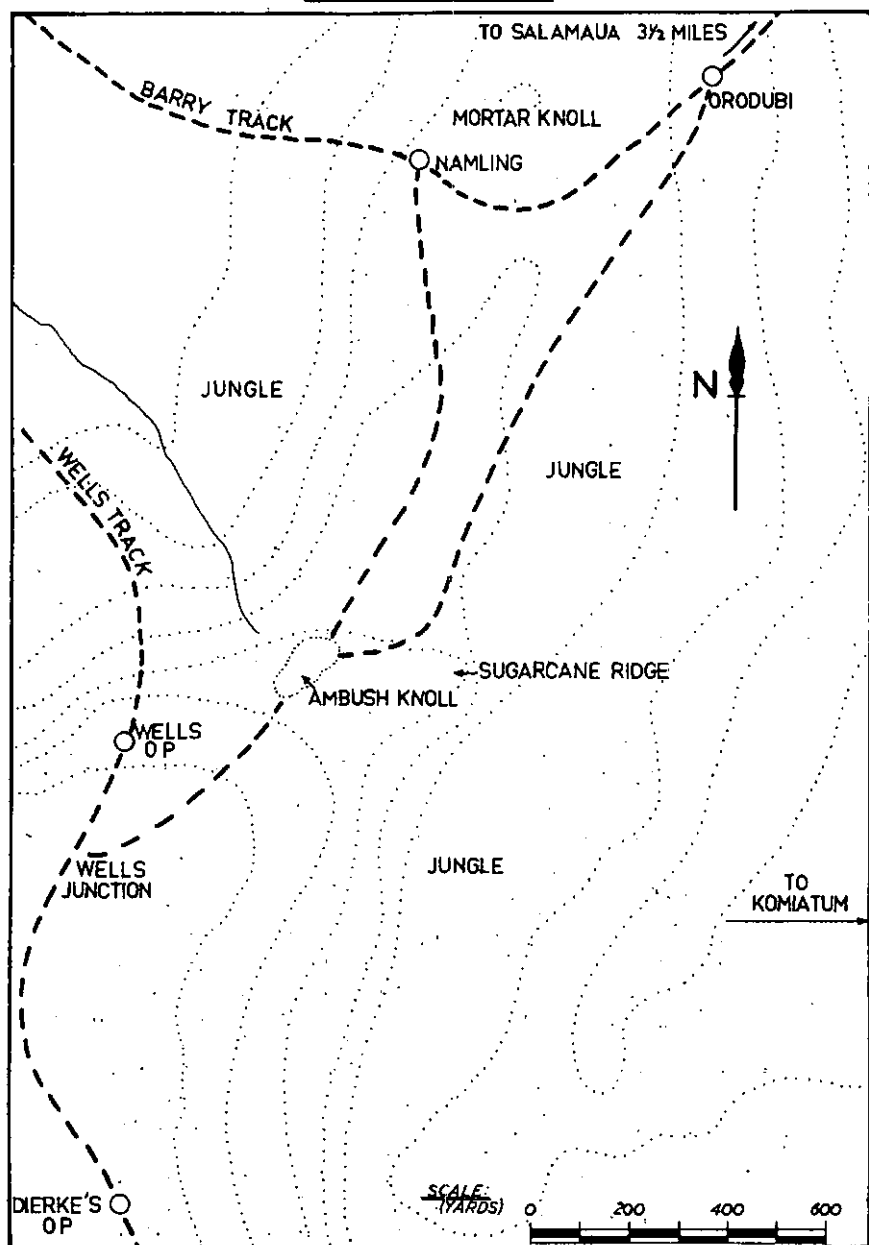
in their bid to recapture the feature. Known Japanese casualties were 67 killed. The Australians lost 3 killed and 7 wounded.

Background

The 2/3rd Independent Company was commanded by Major George Warfe, a good tactician and an outstanding leader of men. His handling of the 2/3rd throughout the Wau-Salamaua Campaign was masterful and he won the respect not only of his own unit but of all other units in the campaign. This, however, is not a story about George Warfe, but the story of a battle.

The 2/3rd was organized into three platoons, each commanded by a captain. At this stage of the campaign the strength of each platoon was about thirty soldiers. Each platoon had three sections. Each section was commanded by a lieutenant with an establishment of 18 soldiers. The section which I commanded consisted of eight soldiers. The wastage was due to battle casualties and sickness during the long campaign that had begun at Wau early in 1943. Although each section had platoon identity, it

AMBUSH KNOLL JULY 1943



was capable of independent action and was officer-led for this purpose.

This account is mainly concerned with two platoons: "B" Platoon led by Captain John Winterflood and "C", led in these operations by Captain Wallie Meares. I commanded 8 Section in C Platoon.

Ambush Knoll received its name as the result of an ambush staged by the Japanese against the 2/3rd Independent Company in this locality on 5th July. The company had been ordered to cut the main Japanese supply route to Mubo on the Komiatum Track. The operation was designed to assist the 17th Brigade's operations against Mubo, and we were on our way to cut the Komiatum Track when we were ambushed. George Warfe launched the necessary counter-attacks to recover the support weapons lost in the ambush; he then pressed on with his mission which was subsequently accomplished and the 17th Brigade closed up. During this period my section had a very harrowing time, which included being ambushed on three separate occasions, and led to our selection as reserve section for the subsequent assault on Ambush Knoll. (This did not hear-ten my weary and hungry troops: they were well aware that the reserve in any jungle attack is normally committed during the fiercest fighting and at the most critical point of the battle.)

Attack on Ambush Knoll

On 14th July the Independent Company was ordered to cap-

ture Ambush Knoll. The company borrowed some rations from the 2/5th Battalion and concentrated at Wells Junction in preparation for the attack. There was insufficient time for an adequate reconnaissance as the attack had been ordered for 15th July as a prelude to attacks by the 58th/59th Battalion at Graveyard and Orodubi on the following day. However, as we had some knowledge of the ground, the plan was based on our local knowledge.

Only two platoons were available for the attack, the plan for which was simple. Meares would attack at 1330 hours from the south astride the track Wells Junction - Ambush Knoll. Winterflood would move off at first light and position himself behind the Japanese, astride their supply track on Sugarcane Ridge. Winterflood would also attack Ambush Knoll from this direction at 1330 hours. The attack was to be supported by two Vickers guns and one 3-inch mortar from the Wells OP area. As mentioned, my section was chosen as reserve. This left Meares only a relatively small force with which to make the frontal assault. We had very little ammunition for our support weapons, but George Warfe made the best use of our Vickers machine-guns which, by the way, we were not entitled to on our establishment.

The Vickers soon shot holes through the jungle canopy of Wells OP and were able to bring effective enfilading fire onto the Japanese defences at Ambush Knoll, even though this feature was jungle covered.

Meares commenced his attack on time as soon as the preparatory fire from our support weapons had ceased. He pressed home his attack and by 1400 hours had closed up to the main enemy defences astride the narrow ridge in this area. We had no news of Winterflood's progress and Meares had to bear the brunt of the brisk Japanese fire. The initial casualties were heavy and the momentum of the attack soon died. Still there was no news from Winterflood!

Thereupon George Warfe ordered me "to go in and take Ambush Knoll". I collected my eight tired, sick and hungry "commandos" and feeling very inadequate, passed through Meares' force and made some penetration of the enemy defences. We were forced to ground, however, by heavy small arms fire and the fire fight developed again. Some very hospitable Japanese exchanged a lot of ammunition, many grenades and much bad language with my small force.

Later in the afternoon we were joined by the adjutant, Lieutenant Brian Harrison, and we made some further ground against heavy fire. Brian fought very gallantly and was killed alongside me in the process. The Japanese were well entrenched and had many well-constructed pill-boxes. The Jap who killed Brian was dug in on the defiladed side of a large bamboo clump. I was unable to see him although he was so close that I could hear him breathing. I was unable to throw a grenade round the bamboo, his position

was well supported by flanking entrenchments, and I wasted many rounds trying to hit him by firing through the bamboo.

At this stage Meares ordered a 2-inch mortar forward and by shouting corrections I was able to range it on to the Japanese position. It gave us real satisfaction when the bombs burst in the Japanese entrenchments.

As last light was falling we heard heavy fire from the rear of the Japanese position, which announced the belated but very welcome arrival of Johnnie Winterflood. Again we pressed the attack, but again the Japanese held. Thereupon George Warfe, who was following progress closely, ordered us to dig in for the night with a view to renewing the attack at first light. We were exhausted!

During the night I took my turn at duty on a listening post with a fellow section commander, who cajoled me into giving him a small tin of honey—the last of my rations. During this tour of duty we heard tremendous activity within the Japanese positions, and wrongly concluded that they were organizing some counter-offensive. At first light next morning we patrolled to the main Japanese position at Ambush Knoll and linked with Winterflood. To our amazement the Japanese had gone!

The Japanese position was well constructed and had been held by about sixty soldiers—a company of the *11/66th Battalion*. They left Ambush Knoll in a shambles, abandoning ten

bodies in the fox-holes where they had died.

Warfe now decided to hold Ambush Knoll with two sections, redeploying the remainder of the company on other tasks. The sections were commanded by Lieutenant Hugh Egan and myself, Egan, who was senior, being placed in command. We set about burying the dead, cleaning up the position and making detailed arrangements for the defence. We did not expect that the Japanese would return and regarded our task as a well-earned holiday. However, we placed our standing patrols and listening posts well out to give us early warning of any enemy approach.

During the reorganization on Ambush Knoll I studied the Japanese defensive layout closely and found that they had not covered a good approach which led along a ridge line from the north-west direct on to the vital ground of Ambush Knoll. Given time to make an effective reconnaissance of the enemy position before the attack, we would have discovered this weakness and exploited it.

Topography of Ambush Knoll

Ambush Knoll was located at the north end of the spur leading to Wells Junction. It was a very important feature which gave observation over the 15th Brigade's dispositions to the north and north-west as well as an excellent view over Japanese positions to the north-east and over the track network leading to Salamaua. From this position we were able to engage tar-

gets on Komiatum Track with our Vickers guns at ranges up to 2,000 yards.

It was well suited to defence. The approaches from the north by way of Namling or Sugarcane Ridge culminated in a very steep razor-back ridge leading up to Ambush Knoll. This was the approach used by Winterflood in his attack and was one of the three approaches used by the Japanese in their later bid to recapture the feature.

The eastern approach embraced a series of re-entrants and narrow ridges that all converged into a final steep pinch leading up to the crest of Ambush Knoll. We had attempted this approach when my section was blocked in its attack from the south. It favoured the defence in the fire fight and the grenade battle. The flanking pits covering the northern and southern approaches enfladed this area. This was another approach used by the Japanese in their attacks.

The southern was the approach most suited for attack of the three approaches used by the Japanese. The ridge line in this area was narrow but flat. Any quick attack in this area, well organized in depth to pass through successive assault waves, would have carried the position. This was the assault approach used both by Meares and myself but we lacked the necessary depth in our assault to make a quick break into the main position. This is an important lesson in the organization of the assault in a jungle attack.

As we now faced the Japanese to the north-east, the southern approach was regarded as the rear approach. The track in this area led south to the advancing 17th Brigade. Any Japanese lodgement at Ambush Knoll would thus drive a wedge between the 15th and 17th Brigades.

Hughie Egan, out of consideration, kindly gave me the southern sector of Ambush Knoll. We were pleased to get a quiet sector and spent the next few days relaxing on fighting patrols, during which we also laid booby traps on the Japanese tracks as well as leaving our calling card on his main positions to the north-east. The southern sector, however, did not prove to be a quiet sector. Far from it! The Japanese made their first and main assaults from the south, and it was no holiday, either for Garland or his men.

Then there was the western approach which the Japanese had not covered in the defence and we had failed to use in the attack. We sited two pits to cover this approach, but the Japanese did not use it. This was very fortunate for us. George Warfe cut a track up this ridge line and it was our only supply route during the defensive battle. In addition there was no water on Ambush Knoll; it had to be carried in. The feature was jungle covered but badly shot up as a result of our attack on the Japanese.

Our Vickers gun was sited on the northern approach to cover known Japanese positions and

to fire on the Komiatum Track. The Japanese sited a mountain gun on the Komiatum Track and the Vickers engaged in a running duel with it. The mountain gun fired over open sights across the valley at us, scored many direct hits but caused very little damage, all of us ducking into our holes when we heard the shells coming.

Much later on the Atherton Tablelands General Savige, commanding the 3rd Division, remarked to me that "the defence of Ambush Knoll was certainly an outstanding feat, but I will never understand how the 2/3rd Independent Company ever captured the position".

The fight for Ambush Knoll

Our initial layout on Ambush Knoll was based on two defence sectors, the northern sector covering Sugarcane Ridge and the southern sector covering the ridge running to Wells Junction. The defences in the southern sector included the fox-hole behind the bamboo which the Japanese had used to such good effect. I opened a communication trench leading to this position.

We deployed two small standing patrols, one on Sugarcane Ridge and one at a track junction on the southern approach. In addition, for close protection, a sentry was deployed forward on each likely approach to act as a listening post.

On the afternoon of 19th July I took out a fighting patrol which laid booby traps to the rear of Orodubi. As the patrol was returning at dusk we not-

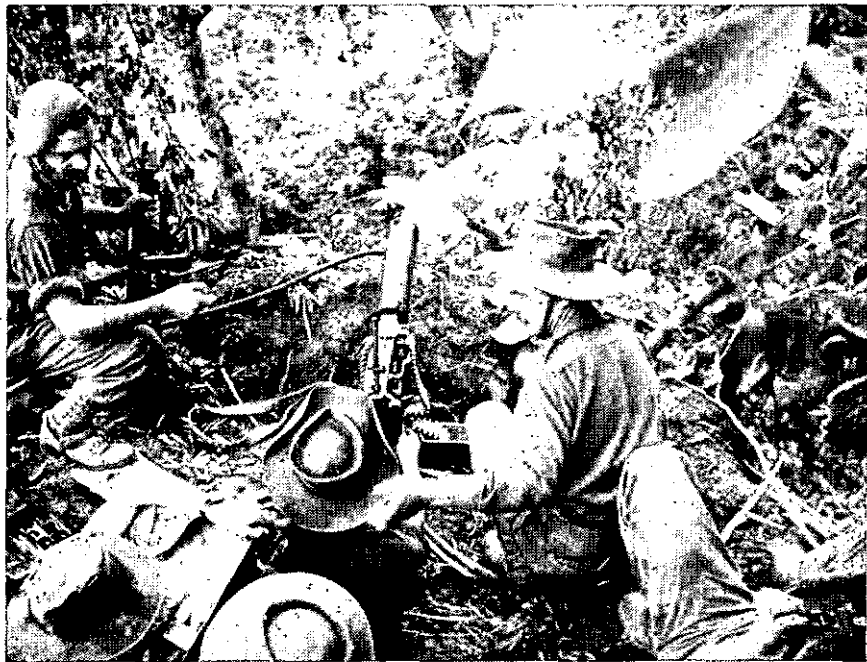
iced that the enemy side of Orodubi was a mass of blinking lights, which I concluded were cigarettes. Obviously a large number of Japanese were concentrated for an operation. I arrived back at Ambush Knoll very weary, made my report on the telephone to company headquarters at Namling, and then fell into a deep sleep. A full moon was rising.

At 2015 hours I was rudely awakened by heavy fire from the standing patrol on the southern approach. The Japanese had moved behind us!

Warfe reacted immediately. He ordered one Vickers gun to

Ambush Knoll to reinforce my sector. He also ordered Winterflood and two sections to move to Ambush Knoll, with Winterflood to take command on arrival.

As soon as the Japanese had overwhelmed our standing patrol they turned and quickly launched a night attack against the southern sector. This was beaten off and the Japanese grouped for a further assault. During this respite the Vickers gun arrived and was set up to cover the ridge approach at point-blank range on loose traverse. I was armed with a Thomson sub-machine-gun as



(Australian War Memorial)

A 2/3rd Independent Company machine-gun pit during the fight for Ambush Knoll. Lieutenant H. L. Egan, who was killed during the fighting on 21st July, is on the left of the picture.

were most of my men, and we also had a Bren gun covering the ridge. Strict fire control, closely supervised by myself, was imposed.

We now had an excellent knowledge of the ground around the southern sector and knew how to make best use of our small arms fire. It was essential to prevent the Japanese closing up and rushing the position, so I organized our fire on the broadside principle, reasoning that well-controlled volleys at identified targets over the flat ridge line would force the leading elements to ground and also disrupt the follow-up elements.

At 2130 the Japanese again attacked the southern sector in strength and a bitter fight ensued. Beyond doubt the Vickers gun saved Ambush Knoll. The assaulting Japanese waves halted before the sustained fire of the Vickers gun at close quarters. The momentum of the Japanese attack was broken and a fire fight ensued. Our fire was carefully controlled and grenades were used when necessary. Indiscriminate firing at night wastes ammunition, induces panic and reveals positions. The grenade is an excellent night weapon, provided that it is not used indiscriminately. If fire becomes essential, a quick volley from all weapons at identified targets produces the best results, stimulates morale and confuses the enemy as to particular dispositions.

At 0630 next morning John Winterflood arrived to reinforce the defences and take command. We were very pleased to see him

and particularly welcomed the ammunition supplies that he brought in. I received some reinforcements to thicken my defences and was left to cover the south and south-east. The Japanese now proceeded to close in, cutting all tracks leading to Ambush Knoll. The telephone line went dead. The battle had only commenced!

Then came the Japanese preparatory fire from the mountain gun, heavy mortar from Orodubi and light mortars from Sugarcane Ridge. Shortly afterwards my listening post reported that the Japanese were coming again. Another bitter fight ensued. Once more the Japanese were held.

"During three days and four nights", states the official history, "Winterflood's men had been subjected to heavy mortar and machine-gun fire from Sugarcane Ridge. Twenty separate assaults had been made, using three different lines of approach. During the six heaviest attacks, all three approaches were used. The Japanese several times reached within a few yards of the Australian positions but on each occasion they were driven back".¹

The Japanese kept coming back, but we were always ready for them. At times ammunition ran very low and I ordered all my automatic weapons to fire single shots only. As mentioned previously, a track was opened up on the western approach and supply was maintained by sol-

1. David Dexter, *The New Guinea Offensives*, pp. 156-7.

dier carriers. The late Damien Parer, the well-known war correspondent, acted as one of the porters and inspired us by his courage.

Ammunition resupply was always welcome. I fired an average of 500 rounds a day from my Tommy gun. On several occasions my troops sang with gusto "Praise the Lord and pass the ammunition" as ammunition was thrown from trench to trench after much-needed supplies arrived.

George Warfe issued his operation order. It was clear and unequivocal: "I want you to hang on to this piece of ground." Brigadier Hammer, the commander of the 15th Brigade, in a letter to General Savage, expressed his pleasure at "a bit of real stoush going on now". He explained that Ambush Knoll was higher than Namling, Namling Ridge and Orodubi. "That's why the Japs want it", he wrote.

Hot meals were cooked at Namling and carried up by our secret but very difficult supply route. The meals were very much appreciated by the weary defenders — when we got the chance to eat them. At one stage I had three accumulated meals waiting in my jungle shelter behind my trench. Mail also came in with the rations. This is reckoned to be good for morale! I received only one letter — from the NSW State Income Tax Department, stating that I owed 4s. 7d. in tax and that if this sum was not paid by 1st February 1943 they would take legal action against me.

While I was considering an appropriate reply, the Japanese attacked again.

It was at this stage that Hughie Egan, a gallant soldier and a good friend, was killed by a mortar bomb. The battle rolled on, in our exhausted state each successive attack becoming blurred with the previous one so that it seemed the fight would go on forever.

Faulty ammunition added to our worries. The Tommy gun ammunition contained a percentage of faulty cartridges that lodged the round in the barrel. This was at times most embarrassing. All of us carried a Japanese steel cleaning rod (from captured Japanese rifles) to punch the jammed rounds out of our barrels so that we could continue firing. On one occasion, after performing a series of such operations during the height of a battle, one of my men drily asked me whether I was using a "muzzle loader".

On 21st July the 2/6th Battalion commenced their advance from Wells Junction to open up the route to the beleaguered defenders of Ambush Knoll. One company, led by Captain E. W. A. Price attacked astride the track against the Japanese south of the knoll. They met heavy opposition, lost two killed and several wounded and had to be content with digging in on the slopes close to the Japanese. The Japanese would not give up, even though one company was sandwiched between Price's company and our troops at Ambush Knoll, continuing their frenzied efforts to capture the

knoll and thus prevent a junction between the 17th and 15th Brigades.

The War Diary of the 2/3rd Independent Company states:

"21 July

1815 hrs Attack on Ambush Knoll repelled.

2210 Jap assault on Ambush Knoll (18th) driven off. Estimated very heavy Jap casualties. Ammunition shortage.

22 July

0150 hrs Jap attack on Ambush Knoll held — our cas 3 wounded.

0430 Further Jap attack held — 20th.

23 July

0600 hrs 2/6 Bn patrol north from Wells Junc to Ambush Knoll contacted our troops. No Japs in posns in between. 70 weapon pits with underground comms found.

0700 Patrol left Ambush Knoll to investigate Jap posns Sugarcane area. Large party of Japs moved north from Sugarcane Ridge".

The Japanese had withdrawn and Ambush Knoll was ours! The first platoon into Ambush Knoll from the 2/6th Battalion was led by George Warfe. It was welcomed with no less relish than the relief at Lucknow!

At 1330 hours on 23rd July I moved my weary but proud section away from Ambush Knoll. We never returned and still had two months of severe fighting ahead of us before Salamaua finally fell.

"Savige breathed a sigh of relief when the Japanese [round Ambush Knoll] finally withdrew", states the official history "He had been apprehensive of an enemy break-through along Dierke's Track which might have prejudiced his entire operations by enabling the Japanese to establish themselves between his two brigades".

Our force at Ambush Knoll, about 40 strong had withstood 20 deliberate attacks from a Japanese battalion and had inflicted known casualties of 67 dead. "The Japanese had attacked bravely and in large numbers and the fight for Ambush Knoll developed into a classic defence", wrote Warfe afterwards. Our meagre losses — three Australians killed and seven wounded — indicate the high fighting qualities of the Australian soldier when his back is to the wall.

The Jungle Attack

In spite of my experiences in the Salamaua Campaign in 1943 I still did not feel that I had mastered the techniques of launching a successful jungle attack until some two years later when I was a company commander in the Aitape-Wewak Campaign.

Jungle conditions enforce certain departures from the conventional concepts of the deliberate attack. The start-line is normally a point and not a line. In fact it is a start-point and all timings are related to the time that assault troops pass their start-point. It is not possible normally, and certainly seldom desirable, for assault troops to

line up in assault formation on a jungle start-line. The assault formations will be broken and control lost within the first fifty yards of the advance. Assault troops in jungle do not normally adopt assault formation until they have closed up with the objective.

There are three elements in a jungle attack. Firstly, the fire support and firm base element which provides the necessary platform to support operations against the enemy flank and rear. Secondly, the assault element, which must have the capacity to break into the enemy perimeter on a narrow front and include adequate depth to fan out within the enemy position to destroy enemy defences from the rear. The third element is the cut-off element.

In any jungle campaign, particularly in an insurgency setting, the plan for the attack must embrace provisions for the isolation and destruction of the enemy. At Ambush Knoll the value of cut-off forces has been amply demonstrated. The Japanese failed to recapture Ambush Knoll because they failed to seal off all likely supply routes. Every jungle attack should be supported by a cut-off element.

A jungle perimeter can be likened to a balloon. It will collapse when one sector is effectively breached and reserves are passed through to attack pill-boxes from their blind side — which is their rear. It is far sounder to launch the assault in depth and on a narrow front than to attack on a wide front

and so lack depth in the assault. The assault troops also require the necessary shock weapons to force a breach in the perimeter. If tanks cannot accompany the assault, which is often the case in the jungle, the assault troops need some other shock weapon, such as a flame-thrower, to fight their way forward.

In every jungle attack that I have witnessed there has always been a lengthy period between the lifting of the supporting fire and the time when the assault troops closed with the objective. This is normally due to terrain difficulties in jungle theatres.

The fire plan should cover the movement of the assault troops from the start-line until they close up to the objective. The aim must be to ensure effective neutralization of enemy defences during this critical phase. Mortar and machine-gun fire can be employed to advantage in this role.

During the assault phase, when the leading troops are forced to ground they should adopt good fire positions and a follow-up echelon should be passed through before the momentum of the attack is lost. If the assault degenerates into a fire fight on a wide front, as often happens in jungle warfare, victory can be won only by bloody and courageous fighting by the assault troops. Although courageous infantry action is always commendable, such tactics are only to be deplored.

The Jungle Defence

A defensive position in jungle is based on perimeter defence.

In a conventional setting this is normally based on rifle company localities. However, the story of Ambush Knoll indicates that a determined platoon can give a good account of itself against vastly superior forces.

Ambush Knoll provided several lessons in the conduct of the defensive battle. They can be summarized as follows:

- (a) Listening posts must always be established outside the jungle perimeter.
- (b) When listening posts have been driven in by enemy attack, they must be re-established as soon as the enemy attack is broken.
- (c) Night attacks in jungle are feasible during a full moon.
- (d) When defending on wide frontages, mobile reserves of troops and automatic weapons should be held in reserve to reinforce a threatened area as soon as the main enemy attack materializes.
- (e) Every section commander must exercise tight control over his fire power to ensure best results in the defensive battle.
- (f) All round protection is a vital requirement in all types of jungle operations.

If our standing patrol had not sounded the initial warning, Ambush Knoll might have been lost on the first night by a surprise Japanese night attack made from the rear of the position.

Conclusion

Ambush Knoll was only a small action which was fought 22 years ago and it merely represented a few days in the life of a small group of Australian fighting men.

Many years later, after two years' service as a company commander in Malaya with 3 RAR, I realized that our troops in New Guinea in World War II had not really mastered the arts of fluid jungle warfare as practised by our current Communist opponents. However, what they lacked in jungle skill was compensated for by their courage and daring.

We would be foolish to ignore the many valuable lessons that we learnt in New Guinea. Our experience there has given us a priceless asset. As the war in Vietnam moves closer to Phase 3 of Revolutionary Warfare, there may be many engagements of a similar nature to those fought at Ambush Knoll.

The notion that a soldier becomes hardier and bolder as war proceeds is mistaken. What he gains in the science and art of attacking his enemy he loses in strength of nerve. The only dam against this loss is a sense of honour so resolute that few attain to it. For this reason I consider that troops composed of boys of twenty, under experienced leadership, are the most formidable.

— Ernst Junger, *"The Storm of Steel"* (English Translation, 1929.)

PROGRAMMED INSTRUCTION

A BREAK THROUGH IN TEACHING METHOD

Lieutenant-Colonel S. J. Templeman,
Royal Australian Engineers

Introduction

A DRAMATIC ADVANCE in the theory and practice of teaching is being developed, the elements of which are only just becoming known in Australia. The method, which is known as Programmed Instruction, has already been put into limited use in the United States and minor use on an experimental basis has already been conducted successfully by teachers in Australia. The purpose of this article is to show the great potential of Programmed Instruction as an aid to the

teacher or instructor, and to indicate its inestimable value to any concern which undertakes any kind of teaching or training.

Programmed Instruction enables the presentation of material to students as individuals at a rate and standard acceptable to any member of a class. At the same time, it makes maximum possible use of the teacher or instructor. In essence it enables the presentation of a subject in easily assimilable logical steps in a proper sequence. It requires the student to respond by answering questions or solving problems at the end of each step. It ensures a thorough grasp and understanding of the subject, thus far, before allowing the student to progress.

The author graduated from RMC in August, 1940. He transferred to the AIF in May, 1941, joined the 2/2 Pnr Bn in September, and was afterwards taken prisoner by the Japanese after the brief and unsuccessful operations in Java.

He is a graduate of Civil Engineering of the University of Tasmania and a member of the Institution of Engineers (Australia). Since the end of World War II he has occupied various appointments, including Technical Staff Officer, Department of Supply, Chief Engineer at Maralinga and CO 6 Engineer Stores Regiment. He is at present Chief Instructor at the School of Military Engineering.

The whole basis of the method is the reduction of the subject matter to be taught into a comprehensive and simple programme. To a limited extent, the underlying idea of Programmed Instruction is already in common use by good teachers who plan their lessons, break

them into elements, employ question techniques, arrange lessons and subject matter in sections, and require responses in a variety of ways to ensure that their teaching has been absorbed.

Programmed Instruction is a breakthrough in teaching method because of the individual aspect, in which the one teacher deals with all his students as separate intellects, the programme laying the foundation of knowledge and the teacher overcoming difficulties when they occur.

The Theory and its Development

Programmed Instruction came into being as the result of various studies of the learning process including the teacher-student relationship. As we all think in different ways, this is an extremely complex process if analysed in detail for a class or group, but at the same time it has been found possible to make good rough generalizations of what takes place when an attentive class is being taught. There is an immediate response on the part of the students to each thought, idea, and fact. A constant intercommunication, as it were, takes place between the teacher and his class. As his mind responds, so the student learns. The problem, of course, is that the teacher does not know the responses of all students and the bulk of his teaching time could be wasted if many are unable to accept new material at the rate or standard at which he is giving it. Also, the student does not necessarily know whether his

mental responses to the teacher's explanations are correct.

Reviews of experimental work in the teaching of animals pointed the way towards Programmed Instruction. Research has revealed a very simple pattern in the step-by-step processes which are employed in animal training. This pattern may be discovered by showing that as each element of a skill is demonstrated, the animal is motivated or stimulated to carry it out, and then is rewarded. As soon as it has mastered one element, then progress is made to the next, and appropriate rewards given, and so on. At various stages in the process, the whole of the skill being taught is revised, thus providing reinforcement to the instruction. This simple process is well known to us all and the technique of putting such instruction across has been employed by man throughout the ages in the training of domestic animals, wild beasts for circuses, race horses, elephants, etc. The process is also well known to any good army instructor, who first of all demonstrates a skill, explains it, then asks the squad to imitate it step by step, and finally practises the soldiers in the complete requirement. A good NCO knows the value of repetition and reward, encouragement or punishment, at the appropriate stages.

The realization that this elementary process might be extended over the whole range of learning rather than being confined to elementary skills

came about only when experiment showed that the training of animals could be taken far beyond present accepted levels of skill and co-ordination. One of the most significant experiments was carried out in the early 1950s by a psychologist who actually taught a group of pigeons to play ping-pong using a step-by-step process.

The whole learning process may be summarized in five ideas:

Stimulus — i.e., knowledge imparted directly by a teacher, by means of a demonstration, book, or other method.

Response — i.e., understanding by student.

Feedback — by imitation or answer to questions.

Reward — satisfaction, praise, or other pleasure from success.

Reinforcement — the imprinting of knowledge, or improvement of skill, due to response and feed back.

Programmed Instruction takes advantage of development in the understanding of learning, and refines the presentation of teaching material to fit the mental processes.

Programmes

Linear Programmes

The programme is the presentation of subject matter in steps or stages followed by questions to test the student's understanding. The physical method of presenting it may be by means of a book, some sort of so-called teaching machine, by film, by record, or other medium of

communication, e.g., radio or television. The important point is that one step leads to the next, and the whole must be designed to give a complete coverage and understanding of the subject matter. There is, of course, an essential difference in the treatment of a subject for different standards of students; for example we would not generally use the same mathematics programme on an adult course as we would for young children because we would expect a quicker perception from adults due to their wider intellectual development and probable greater immediate understanding. One subject may lend itself to development in very small steps, say an explanation of 20 or 30 words; for example, the teaching of the manual skill of valve assembly. Another subject may be impossible to treat in this way and require steps of some hundreds of words; for example, an explanation of sentence writing in English. Treatment of a subject will be different if it covers a fundamental discipline such as mathematics or physics as opposed to teaching of specialized aspects of subjects; for example, manipulation of decimal currency or the behaviour of a missile in flight.

The simplest form of programme is illustrated by the following extract from a programme which sets out to teach Clerks of Works the procedures required in making estimates of cost for house and building construction generally:

Step 1: The basis of all tendering by builders is the pre-

paration of a sound estimate of cost. This involves detailed analysis of all phases of construction.

Q. What must the Clerk of Works do in order to commence the preparation of an estimate?

A. Analyse all phases of construction in detail.

Step 2: Analysis is based on the principal's requirements as expressed in all the tender documents, and also must be related to the site.

Q. What particular requirements influence an estimate apart from a theoretical analysis?

A. The principal's requirements as stated in tender documents and the requirements dictated by the site.

Step 3: The estimator sets out to determine the quantity of work of each class, and the amount of materials of all kinds which will be required. He then converts these to money.

Q. The Clerk of Works in his calculations expresses two elements of all phases of the job in terms of money. What are they?

A. The quantity of work of each class, and the quantities of materials of all kinds.

Step 4: Quantity of Work is expressed in man-days for each trade.

Q. What is the unit of measurement used for work?

A. Man-days.

Step 5: Quantities of materials are expressed in the units adopted in the Standard Method of Measurement for Building Materials.

Q. What is the authority used in expressing quantities of materials?

A. The Standard Method of Measurement for Building Materials.

Step 6: The estimate is always based on a construction plan in which all tasks are considered in detail.

Q. What must be prepared prior to any work on actual estimating?

A. A construction plan.

Step 7: There will frequently be several ways in which a job could be undertaken and the estimator must deal with all of these.

Q. Is it reasonable for the Clerk of Works to prepare a plan for construction in accordance with good building practice and base his estimate accordingly?

A. One plan is rarely good enough and the analysis of the job must be so thorough that all practical possibilities are explored.

Step 8: In building work, the foundation conditions are frequently the governing factor. The estimator must be in possession of full facts concerning sub-soil conditions.

Q. What importance do you place on sub-soil conditions?

A. A building structure rests on the sub-soils and they

therefore become a governing factor. The stability of the structure depends on the strength of foundation material.

Step 9: The plan will indicate proposed footings for the building. These proposals must be checked against the survey of actual soil conditions. Footings should be referred to an engineer for check before the estimate is finalized.

Q. What special precautions should the Clerk of Works take before accepting for estimate the footings indicated by plans and specifications?

A. Check them against an actual survey of site conditions. Refer them to the engineer for final check.

The programme then goes on to deal similarly with estimating details for each principal phase of building construction, i.e., excavations, footings, frame, internal walls, floors, roof, the various engineering services and access to the site. A similar approach is adopted in all manner of programmes.

The point was made that this example is the simplest form of programme. It will be noted that it logically progresses forward until all aspects of estimating procedures have been dealt with. It is not a programme which sets out to develop ideas and promote ability for the independent solution of fundamental problems, and there is no likelihood of a misconception in understanding of basic ideas. Subject matter in this latter

category is best treated by means of a much more complex type of programme which checks the student who errs in an answer and refers him to additional explanatory material contained in the programme, in order to correct his misconception. The simple type of programme which has been illustrated is known as a Linear Programme and the more complex type is called a Branching Programme.

Branching Programmes

The Principle

We have seen that a Linear Programme is simply a means of setting down all our subject matter with the addition of questions and tests together with answers to ensure absorption and understanding. The essential ingredient contained in a Branching Programme is additional material designed to give further explanation whenever this is required, i.e., when the student gives a wrong answer. In effect, a Branching Programme contains one main stream which is Linear, plus a number of other subsidiary streams which are also Linear Programmes. A student who understands the initial step-by-step explanation, and gives correct answers throughout, in fact works through the main Linear stream. A Branching Programme constructed for the teaching of elementary mensuration might follow an outline course as illustrated in Fig. 1:

Area of Plane Figures

Each step in this particular programme is a comprehensive

explanation of between 150 and 300 words. At the end of each step there are questions on the work so far. Appropriate problems are set at the end of some steps. If the student makes a mistake in answering a question and it is one designed to test

Step No.	Subject	Branch Line
1-6	Rectangle (7 teaching steps) Problem 1 → Problem 2 → Problem 3 →	Solutions and Explanations
7-9	Square (3 teaching steps)	
10-20	Triangle (11 teaching steps)	
	Student errs in understanding calculation when base and one side make an obtuse angle	(a) Further detailed explanation (b) Also referred back to steps 15 & 16
	Problem 4 → Problem 5 →	Solution and Explanation
21-25	Parallelogram (6 teaching steps) Problem 6 →	Solution and Explanation
26-32	Trapezium (7 teaching steps) Problem 7 →	Solution and Explanation
33-42	Quadrilateral (10 teaching steps) Student misunderstands calculation when one angle greater than 180°	Explanatory steps and test questions
	Student cannot grasp method of solution when length of one side is not given	
	Problem 8 → Problem 9 →	Explanation and test questions
43-50	Polygon (8 teaching steps)	(a) Ten explanatory steps (b) Reference back to steps 33-35
	Student requires revision in finding area of triangles when given the lengths of sides only	
	Student requires instruction in solution of triangles using trigonometrical methods	Fifteen instructional steps
	Problem 10 → Problem 11 → Problem 12 →	Solution and Explanation

FIG. 1

understanding of previously presented matter as related to the material just completed, then he will be referred to remedial material and by this means given further explanation. Similarly if there is a common type of error in understanding a particular step, a question will be designed to make sure that the student has understood and not fallen into this common mistake. If an incorrect answer is given, he will be referred to explanatory material contained in a Branch. He is referred back to prior steps in the Programme if his answer to a question indicates

lack of basic understanding of some point previously covered.

Multiple Choice Technique

In the design of a Branching Programme, it is usual to make use of questions involving multiple choice in order to test understanding. Depending on his choice of answer, so the student will be referred to the next part of the programme appropriate to him; i.e., to the next step or to a series of explanatory steps. An example of the multiple choice techniques is the following step in a Branching Programme for teaching of elementary mathematics:

Question 1. We have learned that the numbers multiplied together to form a product are called the factors of that product.

There are some interesting and important results when the same number is used as a factor several times. A knowledge of this process is essential to an understanding of exponents, logarithms, the slide rule, the operation of certain computers, and of many other powerful mathematical tools.

Here is an example of the same number used as a factor more than once: In the multiplication $3 \times 3 = 9$ the number 3 appears as a factor twice. Of course we can use the same factor more than twice. What is the product when 2 is used as a factor 3 times? Turn to the page corresponding to your answer.

<i>Answer</i>	<i>Page</i>
6	2
8	4
9	3

Page 2

Your Answer. When 2 is used as a factor three times, the product is 6. You merely used 2 and 3 as factors.

$2 \times 3 = 6$. This is incorrect.

We want the product you would get if you used the number 2 as a factor three times. In other words, we want the result of the multiplication $2 \times 2 \times 2 = ?$

Please choose another answer.

Page 3

Your Answer. When 2 is used as a factor three times, the product is 9. Your answer is incorrect. You have used the number 3 as a factor twice. $3 \times 3 = 9$.

However, you were asked to use the number 2 as a factor three times. $2 \times 2 \times 2 = ?$

Please choose another answer.

Page 4

Your answer was "8".

You are correct. $2 \times 2 \times 2 = 8$.

The mathematical symbol meaning form the product reached by using 2 as a factor three times, is 2^3

It means use the number 2^3 — this many times as a factor.

Similarly, $2 \times 2 \times 2 \times 2$ could be written as 2^4 , 3×3 as 3^2 , etc.

What would 3^4 be?

<i>Answer</i>		<i>Page</i>
$3^4 = 3 \times 4$	$= 12$	6
$3^4 = 4 \times 4 \times 4$	$= 64$	7
$3^4 = 3 \times 3 \times 3 \times 3$	$= 81$	8

Programme Presentation

The simplest and cheapest Programmed Instruction material uses a type of book. To assist the student, the answers to questions are either hidden by means of a sliding attachment, or given over the page on their own. The book can deal with both Linear and Branching Programmes. Following on from this method there is a variety of simple so-called teaching machines which contain the programme; the student views each step through a window and writes his answer in a space provided, and then turns the machine to the next step.

Highly sophisticated machines are available which work by means of computer mechanisms or electronically. Such machines use programmes which are

specially prepared for them and of course these cannot be studied without the machine. The advantage of a mechanical or electronic teaching aid which can handle Branching Programmes is greatly increased flexibility in giving the student remedial instruction, either by reference back or reference to Branches. The disadvantage is cost.

We can expect a great deal of development in the Computer type of automatic teaching machine within the next few years. It needs little imagination to visualize a machine which can handle hundreds of students and a variety of steps all at the same time, every student undertaking teaching to suit his individual mental equipment. The communication equipment

between each student and the machine would of course be part of the set-up.

Practical Application of Programmes

The actual writing of programmes is a very exacting and slow process because of the need for absolute accuracy and clarity of thought. The writer not only has to know his subject in detail, he must also be able to express it simply and clearly, and be able to appreciate all the difficulties which students are likely to encounter. Even a simple programme covering a few days' instruction could take weeks to prepare. Unless one can visualize a very wide use for a programme, it may not be economical in effort to undertake its preparation. On the other hand, the result to be achieved may well justify the work involved, especially in the training of key men in a process, supervisory duties, or in the training of people to carry out vital tasks: for example, the various stages in the arming and firing of an inter-continental ballistic missile.

Many programmes are available from reputable firms and many more are coming on to the market. For most basic teaching such as English, Mathematics, Languages, Physics, Chemistry, Business Management, Economic Theory, etc., there is a great number covering the subjects at different levels and in different ways. In some cases portions of subjects are covered. Choice of the correct programme is most important and should be based on a com-

plete analysis of exactly what the teacher wants his students to learn. In preparing lessons, the teacher may frequently be able to take his matter from parts of various Programmes. The following are recognized as the principal criteria in the evaluation of existing Programmes:

- (a) Adequate coverage without extraneous matter.
- (b) A correct balance between facts, concepts, skills, and principles.
- (c) Arranged in a proper logical sequence.
- (d) A clearly specified aim.
- (e) Suitable for age and standard of students.
- (f) Defined prior knowledge required by the students.
- (g) Adequate testing.
- (h) Simplicity in presentation.

Activities and Findings in Australia

Association for Programmed Instruction

Because of the significant success of the Programmed method in the United States and the growing momentum of this idea and its practical application, the University of New South Wales sponsored the formation of an association of people interested in teaching which would act as an authority in this field and give guidance and advice on Programmed Instruction. One of the prime functions of the association is to follow all developments both in Australia and overseas. The association has about 200 members, mostly from New South

Wales, all of whom are in some way connected professionally with teaching or training.

The Association for Programmed Instruction arranges lectures by eminent men in the field of teaching, exhibitions of teaching aids, symposia on teaching methods and is in the process of issuing its first journal. The Monash University has also recently started to take an active interest in Programmed Instruction.

Employment of Programming

The following are examples of recent interest in Programming and of its practical employment:

- (a) Late in 1964, the Commonwealth Public Service Board conducted a short course designed to acquaint training officers, and other Commonwealth employees concerned with teaching, with the elements of Programming.
- (b) Also, late in 1964, the Directorate of Army Education arranged a course of one week's duration in Programme writing for its officers. This was conducted in conjunction with education authorities in New South Wales. On this course, officers were given the elements of the practical application of the method, and finally given a project to carry out involving them in the writing of a Programme connected with their work.
- (c) Early this year, a Symposium was conducted by the Sydney Teachers' College dealing with Programme writing and the application of Programmed instruction, including the evaluation of programmes. As a result it is understood that some work on Programmed Instruction is to be included in future courses for teachers in New South Wales.
- (d) The Ordnance School at Bandiana has used a branching programme for the past two years to teach the Critical Path Method of Planning. This method of planning is a new technique used by managers and engineers.
- (e) The SME at Liverpool has just successfully completed a short course of instruction in Work and Machines. The course used was a book-type programme prepared by the Grolier Co., and for the particular requirement and level was specially selected as giving adequate coverage.
- (f) Trinity Grammar conducted a Programmed course in Mathematics for 1st year boys in 1964 with amazing results. A number of students covered the entire course for the year well ahead of time and then proceeded with more advanced work. In some cases the saving of time amounted to many months.

Programmed Instruction is a method which is gathering momentum rapidly. Its great advantage has proved to be its stimulus to the student, enab-

ing a more rapid and thorough absorption of information and ideas.

The act of programming a subject, or even investigating the possibility of programming it by using off-the-shelf material, causes the teacher to make a more complete plan for presentation than he might otherwise carry out. Because of this, his teaching improves whether he uses Programmed Instruction or not.

Programmed Instruction enables the teacher to carry out his true function of imparting knowledge where it is needed, while the rest of the class can proceed at a pace suitable to the various individuals. The bright student receives tuition from the teacher in his difficulties as also does the slow learner. At no time is the pace of the class governed by the ability of average students to the detriment of the top and bottom brackets.

Programme writing is slow and exacting. It also requires experience before a teacher can become expert at it. Education authorities in Australia will no doubt have to make men available specifically for programme writing if the method is to progress at the desired rate.

The authorities in Programmed Instruction all emphasize that although it is a significant advance in teaching method it does not and cannot replace the teacher. It is used in conjunction with him and in conjunction with other existing types of aids to good instruction such as films, charts, tape recorders, and suchlike. It does not replace the lecture or lecturer but aids, supports and reinforces. In other words it is well recognized and accepted that many aspects of a subject are better treated by an authoritative lecturer, but many others could be better treated if programmed.

SOLDIERS TALKING

"Well, my lad," said Eroshka, "when you go to the front, be reasonable and think of an old man's advice — you know I'm an old wolf, I have seen everything. So when you're on a raid or anything like that, when they start firing, don't get into a crowd where there are many people. It's always like that, when you fellows get scared, you all huddle together, you think it's more fun to be with the others. But that's where it's worst of all, because they always aim at a crowd. Now I always kept away from people and walked alone, and see — I've never been touched. Yet what haven't I seen in my time!"

— Leo Tolstoy, *"The Cossacks"* (1862)

SOME ATTRACTIONS AND PITFALLS OF MILITARY HISTORY

Brian Bond

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AN IRISH LADY recently told a British general that although she was very interested in history, she had to confess that she invariably skipped the battles. The General retorted that it was rather like saying you are interested in food but never eat meat. I have much sympathy for both parties. I can think of many sound reasons why the lady skips the battles (don't we all experience that temptation?). Yet, at the same time, I think the general was right, that our historical diet will be gravely deficient if we exclude the military element or even regard it as of marginal importance.

Unfortunately, the Irish lady is not alone. Many people are deterred from a study of the subject — despite the fact that war is one of the most powerful

stimulants of the imagination — because of various defects or pitfalls of military history written or unwritten.

For example, there is the easy assumption that to evince an interest in military history is the same thing as actually being a militarist — one who approves of, and even glories in, war. Although this association of ideas now strikes most people as plain silly, the myth is not without historical foundations. In the writings of men as different as Heinrich von Treitschke, John Ruskin, Rudyard Kipling, Alfred Tennyson, and even the early Winston Churchill, one can find sentiments and exhortations that today we can only regard as nauseating.

On this concept of militarism one might comment that few but lunatics have voiced such sentiments since 1918; that they were roundly denounced even before 1914; and that, in general, soldiers and students of war are less militaristic in this sense than are civilians.

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Indeed, it would seem to be axiomatic that soldiers who have experienced the dreadful realities at the front never extol the virtues of war. It is notoriously those on the sidelines who bay for blood. All the students of war, nowadays, whether soldiers or civilians, would endorse the recommendation of B. H. Liddell Hart and take it as their motto that "if you want peace understand war".

Gap in History

Another popular misconception about military history is that wars constitute a gap in "real" history — a holocaust of destruction and waste from which the sane man can only avert his gaze. This attitude is probably fostered by the layout of many school textbooks, but a little reflection will show that it is a profound error — one that Clausewitz exploded over 100 years ago when he insisted that war is only a continuation of policy by other means. Indeed, it is precisely when his dictum is forgotten and war becomes an end in itself, conducted by generals, that the greatest mischief results — as was, I think, the case in World War I.

Transformation

Again, anyone who, ignoring Clausewitz, tries to understand the transformation of British society after 1945 will be completely baffled until he takes into account the social and psychological effects of the war years on both the armed forces and the civil population. In the deepest sense, politics did not

cease for the British people on the outbreak of war in 1939. It cannot be overstressed that military history is not, or at any rate ought not to be, a distinct and very special branch of historical study, but an integral part of the whole along with political, economic, and religious history; and, conversely, military specialists must also be general historians.

Then there is the opposing but also widespread belief that military studies consist of nothing but wars. If this were true, the accusation of militarism would be much harder to refute. In fact, wars in modern military studies resemble the fraction of the iceberg that appears above the waves; beneath lie a great complex of problems ranging from conscription, training, and the history of military thought to current strategy and the limitation or prevention of future war. It is quite legitimate to cloak such studies under innocuous titles like "Civil-Military Relations" provided the historian remembers always to relate his theories to the hard experience of past wars.

One can have no feelings other than respect or sympathy for the many non-historians whose antipathy to military history derives directly or indirectly from the ghastly events of World War I, from which, in particular, popular consciousness has fastened — and not without reason — on the utterly intolerable conditions and fruitless sacrifice of the campaigns of the Somme and Passchendaele in 1916 and 1917. Nevertheless, historians owe it to their trade

not to be carried away by their emotions and to continue the search for truth even in the environment of the Flanders mud.

The causes of these terrible events are not so self-evident or established that we can thankfully banish them as we do nightmares. Hence, much of the astonished comment one hears nowadays about the revival of interest in World War I is foolish or misguided. It is precisely now that young authors of a new generation, including John Terraine, Barrie Pitt, Allstair Horne, Correlli Barnett, and many more, are able to put these four wasted and horrific years in perspective.

Were the generals really so much to blame? Was a compromise peace never possible? These are some of the questions that merit the careful objective attention they are now receiving from historians.

One small aspect of the anti-war fever that swept Britain between the wars is worth mentioning since it has adversely affected the climate of military studies. I mean the late cartoonist David Low's caricature of the army officer as "Colonel Blimp". What a disproportionate effect that cartoon has had! George Orwell perceived as early as 1941 that:

Ten years of systematic Blimp-baiting affected even the Blimps themselves and made it harder than it had been before to get intelligent young men to enter the armed forces.

Of course, there were "Blimps" and even, perhaps, an armv-type classifiable as such. But the caricature was far too effec-

tive — to the extent of sowing deep in the popular mind the notion that all army officers are foolish and the higher the rank the older they are and, therefore, the more foolish.

This, to say the least, is an exaggeration. Judging by photographs and accumulated anecdotes, Field Marshal Sir William Robertson, in World War I, might appear the embodiment of a "top brass Blimp". His manners certainly were rough and his speech stumbling and incoherent. Yet, he had worked his way up from private with no assets but his craftsmanship and perseverance. He had taught himself about six languages besides mastering all the techniques of his profession.

"Great Captains"

Admittedly, there have been and will be stupid or incompetent officers at all levels, but it is a great mistake to be taken in by the Blimp caricature. If the generals always and consistently behaved stupidly, it would save us historians a lot of trouble in our study of wars. On the contrary, the really Great Captains in the three services have been, for the most part, widely read and deep thinkers who could, and sometimes did, play extremely important roles in civil life.

I have in mind in modern times such men as Napoleon, Robert E. Lee, William T. Sherman, the elder Helmuth von Moltke, and, in a minor theatre, T. E. Lawrence. The Germans produced many brilliant candidates in World War II — Erich

von Manstein, Heinz Guderian, and F. M. von Senger und Etterlin — but their strategy was shackled by Hitler, and few, perhaps, had the necessary breadth of mind to rank in the highest class.

Dullness

I have left the strongest objection until last — it is simply that even if military history is interesting, most books about military history are dull. Again, this is a view with which I can sympathize. It seems to me that for various reasons some periods of history just are comparatively uninteresting. For example, I have never yet been able to work up enthusiasm for any of the Duke of Marlborough's campaigns except for his march to the Danube in 1704 and the Battle of Ramillies.

Then there are the "heroes of the nations" series which seem to raise a barrier between the reader and the real man — they portray cardboard figures in splendid uniforms but with all the warts omitted. Similarly uninspiring are many of the books written by soldiers to boost the morale of the service or even their own reputations. Finally — and these are the kind that often daunt the awakening interest of history students — there are the books written by soldiers for the instruction of other soldiers. They are by no means devoid of usefulness, but they are certainly disastrous fare for the beginner.

Having examined and, perhaps, put in perspective, some of the objections and doubts about military history, it is time to

say something positive about what it should try to do.

A great advantage which military history possesses over certain other aspects of history is that when the chips are down, in battle, it is usually abundantly clear which side has won, or at any rate which has lost, which is not quite the same point. As Marshal Joseph Joffre said of the Battle of the Marne in September, 1914, it may not be clear who won it, but he knew very well who would have been blamed for losing it. By the very nature of the subject, then, certain moments are highlighted, and as the beaten army scuttles away, problems of cause and effect are more starkly posed than in most other branches of history.

To chronicle and interpret these sanguinary dramas, military historians must develop their intuitive understanding to a high degree if they are in any way to scale the highest points in their craft — to understand and portray how men react under the terrible stress of what is termed "the friction of war".

Some of the greatest students of war — Karl von Clausewitz, a German; Ardant du Picq, a Frenchman; and G. F. R. Henderson, an Englishman — have excelled in grasping and explaining why one army fought better than another; why one recovered after a defeat (say the Confederates after Gettysburg), while another disintegrated (the Army of the Potomac after Fredericksburg); why one part of an army kept its high morale in foul condi-

tions, while another was decimated in the same place within a few days by illness and desertion. The answers to such questions can only be formulated after years of study, and few students have possessed all the qualities necessary for their elucidation.

Then, within a battle, there is the fascinating drama of the commander wrestling with imperfect and usually contradictory intelligence and finally making the momentous decision: Eisenhower judging rightly to go ahead during the night of 5th June, 1944; Lee wrongly deciding to press the attack at Gettysburg on 3rd July, 1863.

Unravelling Evidence

The military historian has a particularly difficult problem in, on the one hand, unravelling a tangled mass of evidence about notoriously confused past events to impose a pattern by selection and emphasis, yet, on the other hand, to convey a vivid impression of what it was really like with all the confusion and muddle that contribute to "the fog of war". He must note and explain the effects of the weather, of armies being misdirected or not directed at all, of the enemy capturing the plans (as happened before Antietam in 1862), the disagreements of the commanders, the occasional cowardice, and the panic flight.

The best military books are those which somehow succeed in riveting together order and chaos. An encouraging sign in the best military writing in recent years is that this

objective is being pursued more frequently than those of myth making and self-justification. It is an unfortunate defect in Field Marshal Bernard Montgomery's lucid and vigorous campaign histories that he allows the factor of muddle so little scope, except, perhaps, in explaining the misfortunes of his American Allies.

I count it as an attraction that writers have succeeded in capturing the essential nature of war in a variety of ways. There are the orthodox military histories which leave the reader with the feeling that through a combination of scholarship and lucid presentation almost the last word has been said. In this category are books like C. P. E. Stacey's on Quebec, Michael Howard's on the Franco-Prussian War, and Alistair Horne's on Verdun. Then there are the works of military philosophy which try to set military thought in the context of general speculation about human behaviour. In this category I would place Sun-Tzu, Clausewitz, much of Du Picq, and, perhaps, Mao Tse-tung in his theory of guerilla warfare.

Thought Stimulants

Another select class consists of brilliant military thinkers who illuminate more than the campaigns they describe by saying, in effect, what they would have done had they been in the general's place. Carefully documented as they are, G. F. R. Henderson's *Stonewall Jackson* and J. F. C. Fuller's *Grant and Lee* may not rate highly as academic studies of the Ameri-

can Civil War, but they will continue to be read as admirable stimulants to thought about war in a broad historical context. Under the slightly unsatisfactory label of "military prophecy", there are a few profound studies like Liddell Hart's *Sherman* which are thoroughly grounded on historical research, yet, at the same time, use their subject to indicate future trends in warfare.

Nor are autobiographies to be shunned as vehicles of the truth, whether literary and philosophical like T. E. Lawrence's *The Seven Pillars of Wisdom* or devastating in their dry understatement like the books of Robert Graves, Edmund Blunden, Arthur Behrend, and many others. Again every historian must sometimes feel that the novelist has said more in a few pages than many volumes of official or academic history.

Perhaps the most poignant, imaginative description of the American Civil War was written by a man who was not even born when it took place — *The Red Badge of Courage* by Stephen Crane. Of several moving novels on World War I from the view point of the British enlisted man, let me single out a now neglected classic — *Her Privates We* by Frederic Manning, a retiring writer whose literary integrity shines through in his letters to his friend and admirer, T. E. Lawrence.

It is doubtful if historians will ever convey the moral grandeur of the conflict within the German military tradition between duty and conscience — which

historically culminated in the plot of 20th July, 1944 — as movingly as does Hans Hellmut Kirst in his novel *The Officer Factory*. Poets, above all, have captured the essence of war, its pathos, its grandeur, and its littleness, whether it be Walt Whitman or Allen Tate on the American Civil War, Sassoon or Rosenberg on World War I, or Keith Douglas and William Plomer on World War II.

There are two other pitfalls of military history which I would like to discuss more fully. One concerns personal experience. War, it is argued, is so unlike most men's ordinary life — particularly the life of the leisured class who write history — that study as they may, they will lack the feel of how it really was. I think we must concede that there is much truth in this.

Admittedly, most historians have never worked at the coal face or in a factory either, but I still think war is a special case. Where one can see this deficiency most clearly is the long Victorian peace that also saw the establishment of history as a respectable academic study. Did some of our most famous historians, like Lord Acton, for example, ever hear a shot fired in anger? It is certain that he never slept in a ditch or had to forage for his next meal.

Significant Details

What did these ultra-respectable dons, what did William Stubbs and Frederick Maitland know about the small but significant details of medieval history such as the introduction of the stirrup, the use of maps, and

the capability of the war horse? They knew little and did not care very much. In fact, to the Victorians in general, military affairs, present as well as past, were in every sense peripheral, and significantly, it was an American sailor, Captain Alfred T. Mahan, who at last pointed out in the 1890s that even the pacific British Empire rested upon force.

Today, we are all more conscious that war has been a perpetual force in history, and, in addition, that historians are less insulated from everyday life. So I would go no further than to say that experience of peacetime service is valuable for an understanding of how "real" soldiering is done — wars being notoriously regarded by the army as only regrettable interruptions to an orderly life — and for seeing how even the simplest orders can be hopelessly bungled. I sometimes wonder whether someone who has never been under fire can honestly and fairly describe and evaluate the reactions of those who have.

A more difficult question than the use of one's imagination is for the civilian to know what was practically impossible in certain conditions. For example, no quartermaster general would have been duped for a minute, as were civilian historians for years, by the huge alleged size of classical armies — those armies simply could not have lived or moved with the resources available. Conversely, soldier-historians are likely to get the political context wrong by, for example, ascribing to a

Cromwellian general ideas he could not possibly have held before the age of Marx and Freud.

Lack of Experience

The most dangerous aspect today of the lack of practical experience — or at any rate of recent and relevant experience — seems to lie in the realm of strategic studies. Here, concepts such as "games theory" are drawn from experience of the past with a view to predicting options and possibilities for the future.

In the writings of some of the American theorists, terms like mega deaths — millions of deaths — appear to be as calmly manipulated as a child playing with bricks. The practical influence such men have had on official doctrine is, we may hope, limited, but there is obviously a need to have the counter-balance of actual war experience present to remind the theorists that under such and such conditions men would probably not fight at all, and that all their calculations are, therefore, barren. The sheer lapse of time since the last war may thus be an indirect danger to peace.

The last topic is one that concerns all historians, but particularly military historians — namely, the question of whether any lessons can be learned from history. In the strictest sense, the answer must be negative because every event is unique. "History does not repeat itself", as the adage puts it, "historians repeat one another". But this is to be too pedantic. Indeed, we must all learn from history

because there is nothing else. Otto von Bismarck expressed this beautifully when he said, "Most people try to profit from experience; I profit from other people's experience!"

Practice Not Possible

It is not widely realized just how crucial Bismarck's dictum is to the military profession. Their duty is, perhaps, the most exacting and perilous that falls on any citizen and yet, unlike other professional men, they cannot practise — manoeuvres or sham fights fall ludicrously short of real warfare. Imagine a lawyer who had to rely solely on textbooks for 20 years for his single brief, and that a matter of life and death; or the surgeon who had to practise on dummies for 20 years, and then perform a single great operation.*

This is only one great problem. Another lies in the tendency of human nature to resist change and become immersed in day-to-day administration. The proneness to seize on the most striking but often misleading lesson of the last war is another tendency that has frequently brought disaster upon armies and, by association, has cast a shadow of doubt on strategic planning itself.

Accepting then, that soldiers must learn from the past, what type of lessons can they discover? Napoleon, in one respect, is the model military student in that for all his youthful vora-

cious reading he never allowed his mind to be cluttered up with irrelevant details. He read the campaigns of all ages for the light they could throw upon the perennial problems of generalship and the performance of men in war. In short, the past could yield helpful insights into strategy but seldom into tactics.

Because Napoleon kept his eye on the broad questions, the maxims he evolved were deceptively simple, so that the reader is apt to exclaim, "What? Concentrate your forces at the decisive point and distract the enemy? Why, I could have thought of that." But this is to under-rate the word learn. A general commanding thousands of men must not merely know objectively that something is correct. He must be able to apply the right principle instinctively in the heat of battle when, perhaps, his men are reeling back in confusion and even his subordinates are losing heart.

Need for Theorist

Few modern generals have been as well read as Napoleon, but already in his day the need for a theorist or a "brain of the army" was appreciated by Prussia in the appointment of highly educated staff officers like August von Gneisenau and Clausewitz to work hand in glove with the fighting generals like Gebhard von Blucher. As a rule, however, the most influential military lessons have been discovered not by high-ranking officers but by unorthodox juniors and even civilians.

* Michael Howard, "The Use and Abuse of Military History", *Journal of the Royal United Service Institution* (Great Britain), February, 1962.

Captain Liddell Hart and J. F. C. Fuller (eventually a major-general) successfully predicted, from historical studies ranging from Scipio Africanus to Genghis Khan and the American Civil War, the decisive importance of mobility and armoured warfare long before the opening of World War II. T. E. Lawrence, virtually a civilian, based his desert warfare against the Turks on principles gleaned from a knowledge of history almost exceeding credibility. His ideas have influenced another great contemporary theorist of war, Mao Tse-Tung.

It may justly be objected that these were only a few brilliant individuals, that there were other forgotten prophets who proved quite mistaken, such as those who were insisting before 1914 that the horsed cavalry had even greater days of glory to come, and that the British Army has been unprepared in certain respects at the outset of all its major wars. This is, however, only to make the point that the right lessons are exceedingly hard to learn and that since the right course is often perceived by men not in high office, it tends to be half-heartedly adopted, ignored or even taken up by less blinkered opponents.

Soldiers will inevitably continue to search for lessons but are unlikely to benefit in practical ways unless they study in width, over long historical periods; in depth, from varied sources and angles until they begin to understand the real experience; and, most important, in context, as conflicts of

whole societies and not just of armies in the field. The latter is a task which, incidentally, Correlli Barnett has recently attempted with a great deal of success in *The Swordbearers. Supreme Command in the First World War.*

But what about the historian? It seems clear that he must not set out to describe a period of the past with any particular lessons in mind or even a strong desire to deduce them. Otherwise, he will find it difficult to resist reading them into his evidence. Ideally, he should follow the example set by Michael Howard, in *The Franco-Prussian War*, of explaining as clearly as possible exactly what happened and why, and leave the reader to spell out the relevance of the war to his own experience or to contemporary events. Occasionally, too, the military historian may bring such freshness to his subject that the reader is charmed into forgetting that he knows the sequel, and momentarily imagines himself to be sitting in the general's place.

Whether or not the reader has been convinced that military history is an essential yet neglected part of general history, it is an inescapable fact that wars and battles are enormously popular with the general public. Unfortunately, a common failing in many of these battle studies is that they ignore the historical context or more usually get it wrong. Yet, they escape constructive criticism precisely because so few readers, even among those with a good

historical education, have any real understanding of the significance of military history. A rapid increase in the number of military specialists is hardly called for, but here at least is one small way in which the student of history can exert a healthy influence on military studies.

BUNA-SANANANDA 1942-43.

In jungle and grassland trees are definitely tactical features. To control adjacent grass or semi-jungle ground the timber-line must be held. By doing so we obtain observation and deny it to the enemy. The enemy has realized this and has exploited to full advantage the possibilities of sniper nests and artillery OPs controlling large areas outside the timber-line by comparatively few well-trained riflemen and artillery FOOs. This is a policy which we must follow. Our officers and NCOs must be taught to use the trees for sniping and observation on all possible occasions and to deny these advantages to the enemy.

— Brigadier G. F. Wootten,
Report on Operations 18 Aust. Inf. Bde.

PRAED POINT BATTERY RABAU

Colonel F. N. Nurse

WHAT HAPPENED to the guns of the Praed Point Battery at Rabaul on 22nd January, 1942? The question has never been fully answered. The Department of Information handbook *Pacific Victory*, published soon after the war, states that the

"Two big naval guns guarding the mouth of Blanche Bay . . . had been bombed into useless masses of twisted metal. Dive-bombers hurtled down to blast the Australian gun positions."

Lionel Wigmore, in *The Japanese Thrust*, writes more guardedly of the events of this day, but does not pronounce judgment. Perhaps he was unable to establish the truth.

The author graduated from RMC in 1921. He was Artillery Adviser at AHQ in 1940-41 when the decision was taken to install the coast defences at Rabaul and carried out the reconnaissance in Feb 1941 on which the Praed Point Battery was based.

Afterwards he was for eight months BRA (Arty) LHQ, commanded the Darwin Fortress Area from the beginning of 1943 to the end of 1944 and No. 5 Base Sub Area for about three months from Dec 1945. He became GSO 1 DSD AHQ in March 1947, remaining in that appointment until his retirement in March 1951. He died in July 1963.

He states that the "intense bombing and machine-gunning . . . had the effect of silencing the coast defence guns. A heavy pall of smoke and dust, so thick that it resembled a semi-blackout hung over Praed Point. Some of the dazed survivors said that the upper gun had been blasted out of the ground, crashing on the lower gun and injuring the commander. Eleven men were killed, including some sheltering in a dugout who were buried alive when it collapsed."

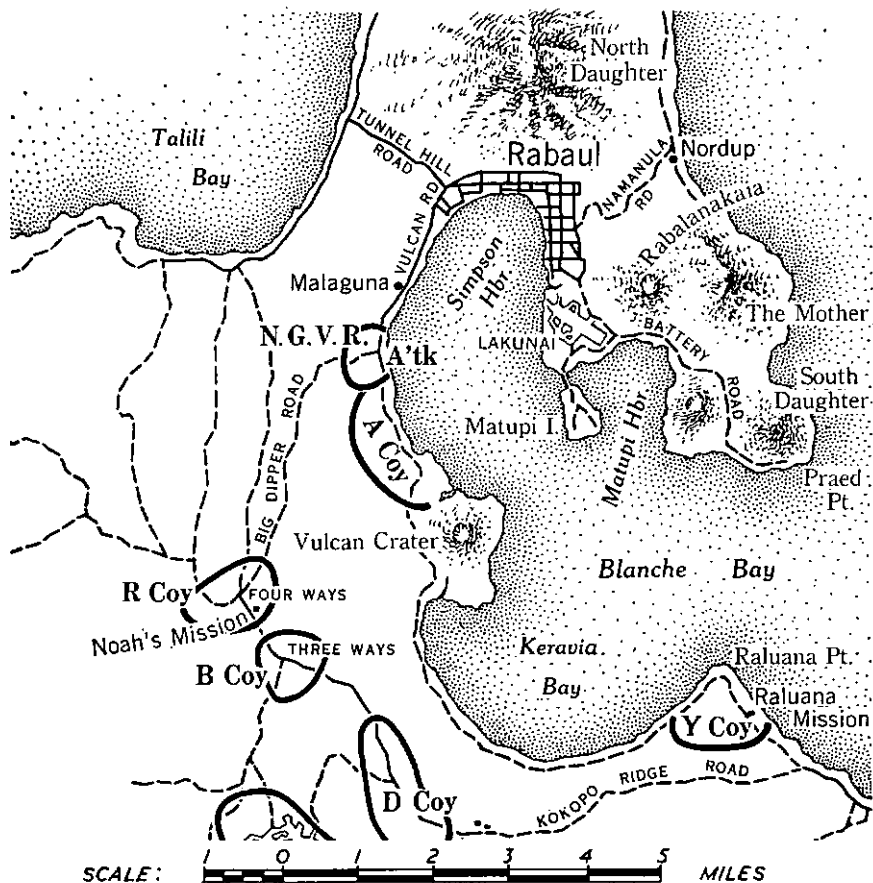
The statement in *Pacific Victory* that the Praed Point Battery was dive-bombed is the only part of that quotation that is correct. The rest of the statement is utterly untrue. The two so-called naval guns were army land service guns found in various coast defences around Australia and had no naval origin whatsoever. They were not converted to useless masses of twisted metal; on the contrary when I examined them personally in December 1945, after our re-occupation of Rabaul, I found the true position was as follows:

- (a) Both guns were still on their mountings in their original positions.

- (b) One gun — the lower sited of the two — was quite undamaged in any particular. It was quite intact in all its major fittings and the only mechanism missing was the lock and slide box of the firing gear which someone had obviously removed by hand.
- (c) The upper gun had minor damage to the breech block, the same two parts of the firing gear had been removed, and the layer's plat-

form on the left-hand side was bent out of position. Otherwise it was correctly positioned.

As this Praed Point Battery and its fate have been a frequent source of discussion and the allegation that it was utterly destroyed by dive-bombing has appeared in official records and the press I feel that in the interests alone of historical exactitude the correct position should be known.



The allegation that Praed Point Battery was destroyed must mainly have originated from the statements of a few dazed and inexperienced gunners who, having survived the dive-bombing, also survived the invasion and managed to escape from Rabaul. Their evidence at the subsequent court of inquiry, plus press repetition of the story and the impossibility of any checking until after the war, has with the lapse of time given this allegation an entirely spurious aspect of truthfulness.

Origin of Praed Point Battery

During 1940 enemy armed raiders appeared in the Pacific. As Rabaul was the administrative centre of the Mandated Territories, its harbour a refuge for shipping, and the R.A.A.F. had established supplies there for an advanced operational base, it was decided some degree of defence against itinerant raiders was necessary. Two old six-inch guns installed at Raluana Point on one side of the entrance to Blanche Bay during the first world war had been removed after the armistice and Rabaul was defenceless. It will be noted that the battery was intended to deal with the situation as prevailing in 1940-41, viz. fleeting bombardment raid by, at most, one or two armed merchantmen. The problem of air attack or sea bombardment on a Pacific War since was not budgeted for since sufficient coast guns and anti-aircraft guns were not available for the more important mainland ports let alone Rabaul. This small-scale defence was purely

a deterrent against possible small-scale attack from the sea and violated no established principle.

Reasons for Choice of Site

The selection of a site for the only two available guns offered complex problems aggravated by the limitations of the guns with their short range and small hitting power. The choice of the site almost from the inception of the battery suffered intermittent criticism from servicemen none of whom were concerned with the solution of the problem or could have been informed on the limitations of our equipment. I mention this criticism of the site as it becomes linked with the story of the destruction of the battery, the implication being that had it been sited anywhere else it would have escaped the alleged destruction.

The entrance to Blanche Bay is at the S.E. corner with Rabaul at the northern end screened from the entrance by volcanic cones and a crater ridge. This crater ridge almost encircles Blanche Bay, rises mostly precipitately from the edge, and acts as a natural weather protection for the harbour. Unfortunately its height and width are inadequate to protect Rabaul against bombardment from the sea which in turn almost encircles the landlocked harbour. In effect Rabaul can be bombarded from the sea from almost any point on three-quarters of a circle and the maximum efficiency of the battery obviously depended on its site.

The chosen site, Praed Point, lies on the northern side of the entrance and covered part of the bombardment zone. It completely covered the entrance. The site almost universally advanced by the critics was at Raluana Point on the southern side of the entrance and I can only conclude it was so favoured because it was the site of the battery installed there temporarily in the First World War. It was many more miles from Rabaul than Praed Point, and any reinforcement, in event of a surprise attack by landing parties, was thus prejudiced. It covered the entrance equally as well as Praed Point but entirely failed to cover any part of the bombardment zone. Praed Point, with its precipitous surroundings, was ideally protected against surprise; but Raluana Point, with its level foreshores, was wide open to attack. It will be recalled that when the Japanese launched their invasion of Rabaul they landed in the Raluana Sector where an AIF company was deployed in recognition of its weakness. No landings were even attempted on the northern side of the entrance — the Praed Point side — obviously owing to its terrain favouring the defence.

Positions of the Guns

In view of the allegation that one gun was blasted out of the ground and crashed down on the other gun killing most of the detachment, the actual site of the two guns in relation to each other calls for explanation. Normally the guns of a battery are sited more or less on the

same level. Where the required arc of fire is narrow this is effective. Where a wide arc has to be covered it is obvious that one gun will mask the other towards the extremities of the arc, while blast effects are serious problems. To meet the requirements of as wide an arc of fire as possible for both guns and to avoid masking and blast, one gun was sited above the other and not to the flank. This was a departure from Australian precedent, but quite logical and in fact had been adopted at Pasir Laba battery at Singapore which I visited some years before. This apparently unorthodox siting received its measure of criticism.

The administrator of the time, Sir Walter McNicoll, an old soldier of the First World War, held contrary views to mine favouring Raluana; but as he had been an infantry brigadier and his artillery experience was therefore limited, I could not accept his suggestions. I feel that in my rejection of his argument for Raluana lies the initiation of the ultimate criticism which developed in the AIF garrison before the attack and widened after the fall of Rabaul.

The emplacements were constructed by the Rabaul Public Works Department and the guns installed about July, 1941. The installation roughly synchronising with the arrival of the AIF and Militia garrison. The strength and function of this force had of course substantially changed since the inception of the defence of

Rabaul, the problem of a sporadic raid by an armed merchantman now yielding to the much greater problem of a Pacific War between first class naval powers.

In November, 1941, a greatly enhanced scale of defence for Rabaul was planned owing to the drift towards war in the Pacific, and an American offer of heavy artillery, anti-aircraft guns, radar and the other essential requirements of a strongly defended base. In connection with this change I visited Rabaul as a member of an inter-service planning team. As our Catalina came in high over the entrance to Blanche Bay it was impossible to avoid seeing the Praed Battery in all its detail. It stood out stark naked, a bright yellow splash against the dark green back-ground. The construction party, with a fine disregard for all the elementary principles of concealment, had ruthlessly removed not only all the pine trees in the battery area but also the entire tropical undergrowth and were then completing the metalling of a wide road with off-shoots leading with mathematical precision up to the very gun emplacements.

Japanese intelligence agents were obviously active in Rabaul particularly during the early years of the war; and the installation of the Praed battery could not have passed unnoticed. The denuding of the surroundings could not have affected the enemy's knowledge of the battery position but its stark nakedness not only invited but

assisted air attack. Pilots and bomb aimers were enabled to align their sights with the finest degree of accuracy.

Restoration of the undergrowth or concealment of this wide-spread damage was impossible in any reasonable time. The battery commander laid the blame on the Rabaul Public Works but recriminations were unable to repair the position and the only immediate action possible was the erection of anti-blast walls and camouflage screens restricting all movement to essential tracks. By a patient process of planting tropical creepers the bareness in time might have been moderated.

Dive-bombing of Praed Point

On 22nd January, as a prelude to the invasion, the battery was dive-bombed. The actual damage resulting is dealt with later. It was the baptism into modern warfare of a small detached body, and the difference between the reports of this attack and the basic truth as revealed by a cold-blooded leisurely inspection after the war must be attributed to this cause.

The first signals which reached AHQ from Rabaul were bare of detail but stated that the six-inch guns at Praed Point had been put out of action by dive-bombing. Subsequently reports from escapers reached AHQ asserting, *inter alia*, that:

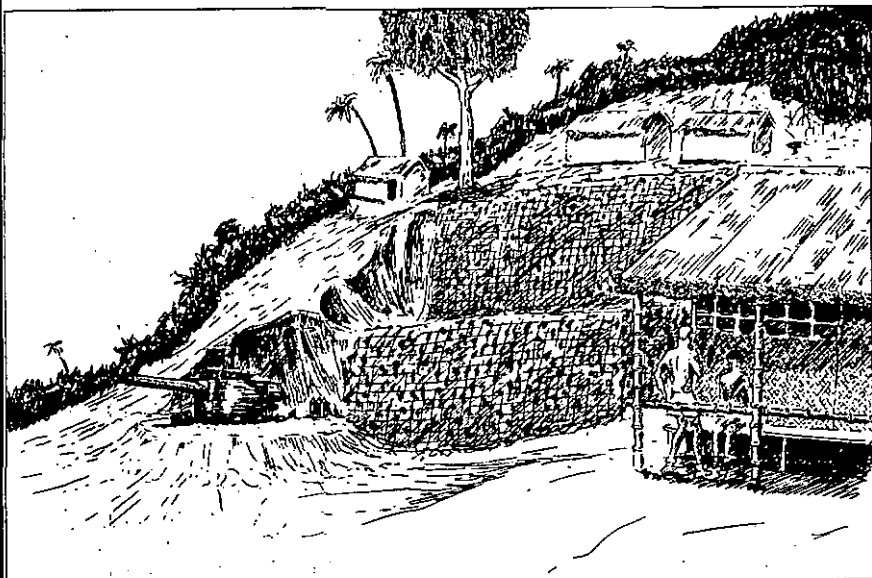
- (a) The attack had been made by 17 dive bombers. (This figure has reached much greater proportions as the fate has been told and re

told; but 17 was confirmed at that time as the approximate correct figure.)

- (b) The upper gun was blasted out of the ground and, crashing on the lower gun, killed a number of men.
- (c) Six to seven men sheltering in a dugout nearby were buried alive when it collapsed under the concussion of bursting bombs.

Early in 1943 a party of war correspondents visited Darwin where I was then commanding the Darwin Fortress Area. In the course of a discussion on ground defences versus air attack, and after quoting very freely the oft-repeated stories about the Hong Kong and

Singapore guns being unable to fire a shot owing to their wrong positioning, and how they were blown up by air attack, one correspondent referred to the Praed Point Battery at Rabaul. Not knowing my connection and knowledge he roundly criticized its site, declared that it should have been on the other side of the entrance at Raluana, and of course repeated the story that the upper gun had been blown out of the ground on to the lower gun, killing the detachment. When I revealed my own knowledge of the battery and cross-examined him he admitted that he had never been to Rabaul and that he was repeating what others had said. I quote this as an example of the



PRAED POINT BATTERY, RABAUL
No. 1 GUN, DECEMBER, 1941

(From the original water colour by F. C. Hinder, in the Australian War Memorial.)

loose talk that has always followed any reference to Rabaul.

Later on in the islands I heard similar stories of the Rabaul debacle, and as can be well imagined I hoped that sooner or later I might be able to re-visit Rabaul and solve as far as possible the battery's fate.

Solution

In December 1945 I arrived at Rabaul to command the base sub-area. Almost my first act was to explore Praed Point. I found the original metalled access road had gone to pieces during the Japanese occupation while the battery area was a wilderness of untamed jungle growth. Nature, in the four years since my previous visit, had with more than a lavish hand repaired the damage perpetrated on the foliage by the original Australian development. Tracks disappeared into hummocks of dense growth and creeper and this fact, combined with water-torn crevices and treacherous slopes, was responsible, no doubt, for the inability of most reconnaissance parties to find the upper gun. Even with my own intimate knowledge it was only after half an hour's search that I stumbled on it almost completely hidden by a mass of creepers.

The lower gun, about which there is little controversy, was readily found. It was correctly mounted and though the emplacement pit reeked with stagnant ooze and rubbish, the whole equipment was in surprisingly good order when it is recalled that no maintenance

whatever could have been carried out on it in the four years that it had been exposed to all the tropical elements. The sighting gear less telescopes, the layers' handwheels and the breech mechanism less the lock and box slide, were all intact. I satisfied myself by close examination that the equipment was quite untouched by bombing or machine-gunning.

Examination of its surroundings showed that the enemy had designedly left the gun intact after seizure of Rabaul and had emplaced two similar calibre guns on the same line, one on each side of the Australian gun. The Japanese guns were well concealed by overhead cover of very substantial design, the main bearers being steel joists and very stout hardwood timbers. The emplacements were reached by short traversed tunnels and were proof against anything but a direct hit from a heavy bomb.

The upper equipment, about which there has been so much loose talk, was at first sight liable to be taken for a discarded gun, the entire mounting, emplacement and gun with the exception of about three feet of the breech end being covered by a thick pile of creeper and undergrowth. I only found it because I knew its precise location. Removing as much creeper as possible I found that a near miss plus extensive erosion of light volcanic soil from the hillside above had almost filled the emplacement pit up to gun-floor level with soil in which the undergrowth

had found lodgement for its roots. The same near miss had buckled up the light steel platform on the left-hand side but the auto sight layers' gear was intact. Two or three shallow holes had been scored out on the breech block by either bullets or small bomb splinters. These were unimportant. The most damage came from some small missile which had struck the breech block immediately adjacent to the breech face and had bored a hole into the breech which may have affected the sealing of the propellant gases. I saw no damage beyond the capacity of a good armament artificer. The lock and slide box had also been removed from this gun. As with the lower gun the enemy had left the upper gun undisturbed but had straddled it with two of his own of smaller calibre, approximately 1.5-inch, with the usual substantial overhead cover of steel joists and hardwood baulks.

It is not possible of course to establish from what source the relatively small damage was derived. The mountain slopes of the South Daughter above were dotted with enemy anti-aircraft guns — part of the general area defence but strongly related to the nearby Lakunal airstrip. It was a known enemy strongpoint and must have been at some time the target for Allied air attack in the many raids against the Rabaul area. The damage might well have resulted from our own aircraft and not been the enemy's handiwork at all.

Conclusion

My conclusions on the stories spread about the fate of Praed battery are therefore:

- (a) The garrison's inexperience of air attack led to a complete under-estimation of its potentiality as a morale wrecker with raw troops.
- (b) Little attempt could have been made to protect the equipment against near misses. That the equipment was mostly intact after an unopposed dive-bombing attack again shows how ineffective dive-bombing can be against trained troops and proper anti-bomb measures.
- (c) Little attempt of consequence, if any, had been made by the detachments to put their guns out of action before evacuation.
- (d) Slight damage was caused to the upper gun by the dive-bombing and none whatever to the lower gun.
- (e) The uprooting of the upper gun or the conversion of either gun to twisted wreckage is utterly untrue.

Ever since my detailed examination of the site in December 1945 the area has been visited by interested parties; but owing to the difficulties of the site, its precipitous and overgrown nature, combined with their lack of knowledge of just where to go, they have consistently overlooked the upper gun and therefore conclude it no longer exists.



FREYBERG, VC: THE MAN, 1939-45, by Major-General W. G. Stevens. (A. H. & A. W. Reed, Wellington and Sydney, 1965, 24/6.)

In this slim, hard-to-put-down "memoir", a New Zealand officer, arriving at an American headquarters in Italy in 1944, records his pride at being introduced to a high-ranking officer with the words: "Here, Sir, is one of Freyberg's men."

It was not always so. In 1939 when the 2 NZEF was being formed the New Zealand Government decided that there was no-one in the New Zealand Army, either regular, or territorial, who had the necessary capacity and seniority to command the new force. The author of this warm, but perceptive study shared this view in 1939 and sees no reason to change it today. He should know. Major-General Stevens was a 1914 graduate of RMC; for the larger part of the 1939-45 war he was Officer-in-Charge of Administration 2 NZEF; in November 1945 he succeeded General Freyberg as GOC; later he wrote two volumes of the New Zealand official war history.

The decision to appoint Freyberg, who had been retired on medical grounds from the British Army in 1937 and had

offered his services to the New Zealand Government, was galling to the more senior regular and territorial officers and was regarded as "a slight to true New Zealanders". The London-born Freyberg had lived in New Zealand for the twenty odd years covering his childhood and youth, but he had had no connections with the country since the end of that time, and had never served with New Zealanders.

Stevens makes it clear that the first eighteen months of Freyberg's command were not entirely happy ones. The New Zealanders looked on their GOC as a British officer and were uneasy about him. They could not fathom the General's mind, nor he theirs. It was not until after Greece and Crete that Freyberg "rediscovered himself as a New Zealander." It was at that stage too that the New Zealanders discovered their commander, and in the shared crucible of disasters and dangers found the "real human being behind the daunting facade".

Stevens writes warmly of the man — kind, considerate, compassionate, always ready to listen, always approachable, never preemptory, never curt, never criticising anyone in front of anyone else; "I never heard

him raise his voice in anger or say a harsh or unkind word" — yet not with moans in his eyes obscuring all vision. He gives examples of the lengths to which Freyberg would go to avoid performing uncomfortable duties, particularly with officers who had failed and had either to be passed over for promotion or sent back to New Zealand. There were times, Stevens writes, "when it would have been better if the General had spoken the harsh truth . . . President Truman once said that he never gave people hell, but sometimes he told them the truth about themselves and they thought it was hell. Perhaps my Chief could have salved his conscience in this way; but he preferred to avoid any such action altogether."

There are many illuminating anecdotes, recounted with pride and understanding. Freyberg, according to Stevens, read little. If he thought much his thinking seems sometimes to have been muddled and his responses perhaps slow. For example, when the New Zealand furlough scheme was being drawn up in 1943 Freyberg insisted on drawing up tables himself under all sorts of headings, many in conflict with one another. They almost drove his administrative staff to distraction. Stevens confided his troubles to Brigadier Kippenberger, who sympathized with him and said: "Wouldn't it be nice if the General would think straight?" He sighed, and then went on: "Or better still, in this case, if he wouldn't try to think at all."

There are other examples in this frank book. On a later occasion in Italy, after Brigadier Burrows' brigade had been withdrawn from the line, the General telephoned the brigade commander about 11 p.m. to ask him how the attack was going. Burrows, who had been roused from sleep, told Freyberg that it was Brigadier Pleasant's brigade and not his that was making the attack. The General said "Oh" in a surprised voice and rang off. An hour later he phoned Burrows again and exactly the same conversation took place.

Although Stevens avoids any assessment of Freyberg the tactician, inevitably tactics intrude. Freyberg's handling of the campaign in Crete was open to criticism, and it seems that he sensed he had not done well: though he talked little about past battles Crete was a theme to which he frequently reverted. This criticism, however, was of a stage where the New Zealand subordinate commanders and staffs were relatively inexperienced. Afterwards, as the commanders and staff developed in confidence and experience, they were granted an unusual degree of latitude. The fine trust which Freyberg showed in his commanders' judgment paid admirable dividends in the expert New Zealand Division; thereafter, if there were tactical errors, they were on the safe side and did not lead the division to disaster.

Outside the welfare of his troops for which the New Zealand Commander's concern was

unsurpassed, Freyberg's greatest success was perhaps in the field of political diplomacy. Having obtained a charter that was unusually generous, he kept his relations with the New Zealand Government from the outset almost entirely under his personal control. Throughout the war he maintained a flow of communications to the Prime Minister, the Minister of Defence and to Army Headquarters, never presuming, never once losing his punctilious approach. He wrote the messages himself, shrewdly choosing words that exalted the importance of the recipient, alluding always to the division as "your division" or "your force". The New Zealand Government, writes Stevens, "loved getting these messages, their very own despatches from their own commander in the theatre of war." In the opinion of his subordinates, the "old man" could get away with anything. "There can have been few occasions," Stevens adds, "when a commander and his government have worked in such close and sympathetic co-operation, and the lesson might well be taken to heart in a wider field than that of one division from a small country."

This fine fighting division — "the best troops on the Allied side" in the opinion of Rommel — seems to have functioned as a close-knit family, with the orders of its respected father, Freyberg, subject from mid-1941 onwards to almost the same degree of critical appraisal that those of any head of a family

household receive today. Stevens thinks that Freyberg reached his peak as a divisional commander, and was never at his best as commander of a larger force. His great power lay in giving example and leadership to men in action. This he could not do as a corps commander. As Stevens shows also Freyberg would have gained no personal advantage by accepting a higher command, and the New Zealand Division, even in the opinion of those next in succession, would have been "unthinkable" without him. By 1944, in a larger force, probably all of Freyberg's brigadiers would have been commanding divisions and were as equally capable of independent judgment at that level as their commander. By remaining with the division, Freyberg blocked any possibility of their advancement, yet they continued loyally to serve him.

Freyberg came to the 2 NZEF with a ready-made reputation as an illustrious fighting man. Stevens recalls that the GOC almost danced with joy when his appointment was announced, and no wonder. In the succeeding years he communicated his boundless faith, energy and enthusiasm to the men he commanded. Thenceforward, "sometimes stumbling, but never faltering or hesitating, he gave every moment of his day and every effort of his mind to the well-being of the Expeditionary Force." The New Zealanders' response was equally generous.

— A.J.S.