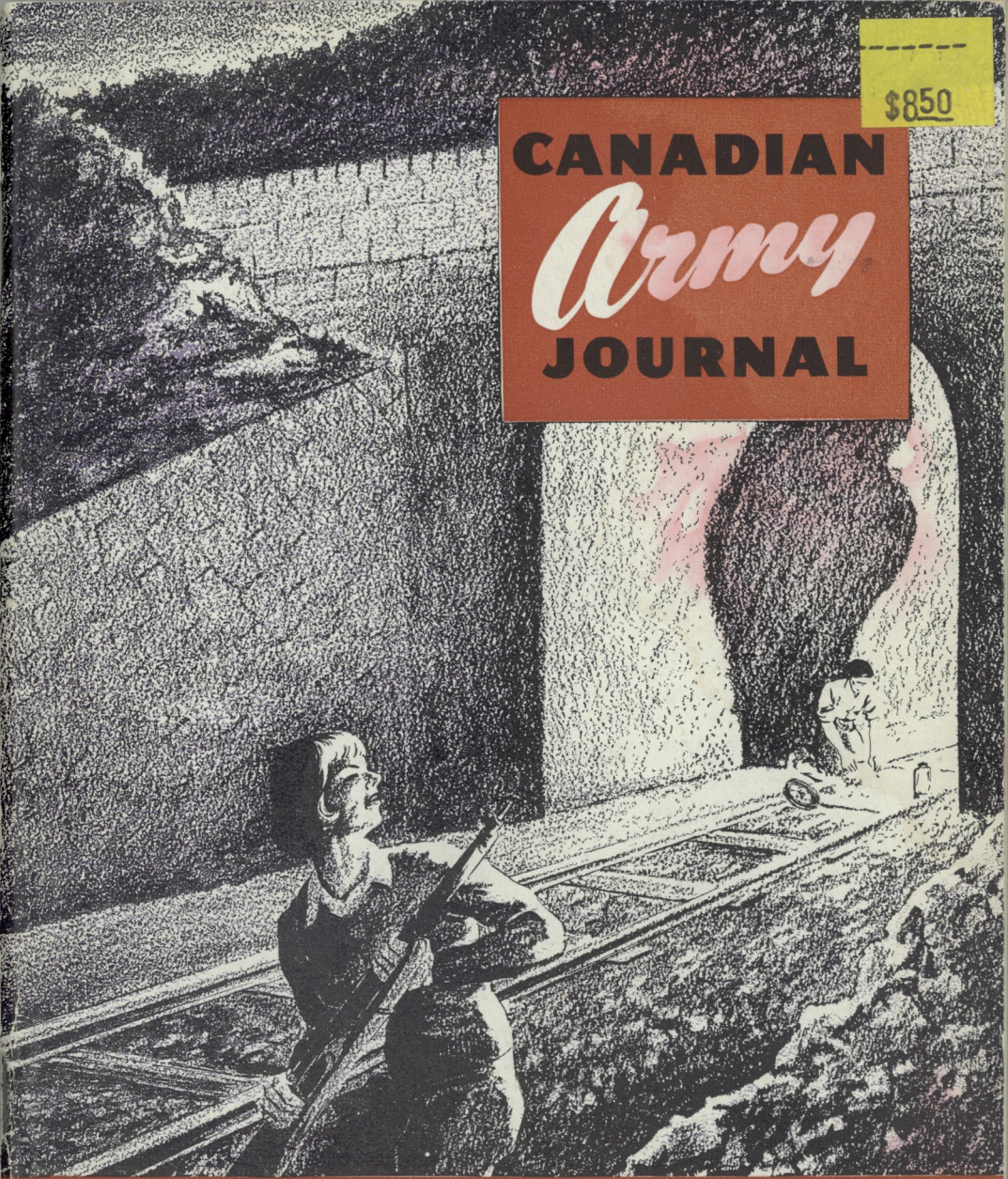
CANADIAN Army JOURNAL



VOLUME 4 NUMBER 7 DECEMBER 1950

CONTENTS

Military History and the Principles of War 1

The Defence of Upper Canada 3

Modern Man-at-Arms (Part II) 13

The Defence of Hong Kong (Concluded) 18

Partisan Operations (Part I) 32

Arctic Test Branch 43

Service Rifle Shooting 48

A Tale of Tuglakabad 54

Some Ideas on Defence 64

The Training of a Soldier 77

The Cover
Partisans demolishing railway trackage.

CANADIAN Army JOURNAL

The object of the Canadian Army Journal, which is published by the Directorate of Military Training under authority of the Chief of the General Staff, is to provide officers of the Active, Reserve and Supplementary Reserve Forces with information designed to keep them abreast of current military trends and topics, and to stimulate interest in current military affairs.

AN EDITORIAL

MILITARY HISTORY AND THE PRINCIPLES OF WAR

Important principles may and must be flexible,—Abraham Lincoln.

It is axiomatic that the art of waging successful war is based on the observance of certain military principles which have been evolved during the course of centuries of warfare. Military history indicates that the common-sense observance of these rules makes for success in battle; conversely, it also teaches the salutary lesson that neglect of these "guides" has brought defeat, more often than not.

The mature student of warfare will realize, of course, that slavish devotion to the standard rules of battle will not always lead to victory; that the precise application of the letter of the martian law, as it were, will not always assure the defeat of the enemy. But this cannot be interpreted to mean that the principles of war may be safely dispensed with when the exigencies of the battlefield make them appear unnecessary.

As in other fields of human endeavour, the battlefield cannot always be cut to a pattern that will suit the designs of a commander: all that can be done, in most cases, is to shape the material at hand to conform to the plan which has the most hope of success. In a like manner, the principles of war cannot always be picked from the pamphlet and applied, holus-bolus, to the situation at hand.

The study of military history, if it does nothing else, will impress upon the intelligent reader the fact that the principles of war are not as the laws of the Medes and Persians—a set of iron-clad rules from which there must be no jot of deviation. These principles must be accepted simply as guides to action, useful sign-posts along a difficult and dangerous road. The quality of elasticity is inherent in them: they can be modified to fit the shape of things to come. It is the ability of a commander to mould these principles to his own particular purpose that makes him a successful tactician, and not merely the senior officer from whom all

orders flow.

According to Napoleon, "the principles of war are those that have guided the Great Commanders whose great deeds have been handed down to us by history." Commenting on this definition, Major General W. H. S. Macklin, CBE, Adjutant General of the Canadian Army, says in his "Introduction to the Study of the Principles of War:"[1] "If this be accepted it follows that an 'intelligent perception' of the principles of war will best be gained by an intensive and objective study of the principles and methods of the great military leaders of the past. But it is absolutely essential that their methods be examined in the light of present, and possible future, developments in weapons, equipment and technique; in other words, in the light of modern conditions of war."

Military history offers such an abundance of material for study that the average student may well pause in dismay before plunging into what would appear to be an herculean task. Some suggestions to both student and instructor on how to tackle the job are contained in an article by Major R. G. S. Bidwell, RA, entitled "An Approach to Military History,"[2] and from which the following lines are taken:

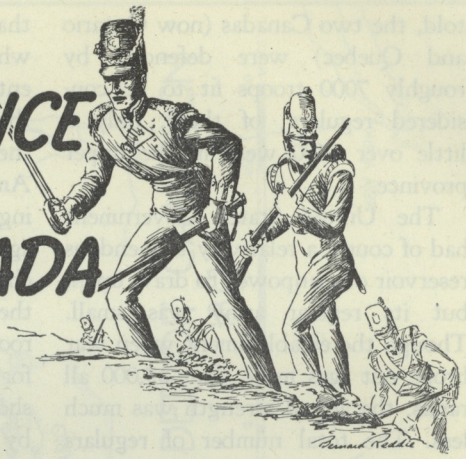
"The close study of a complete campaign, as for the Staff College, may reward the student who has learnt how to read for himself. For the beginner, it is suggested that the examples chosen should be episodic, and above all short, so that the student is never drawn into trying to unravel dead-as-mutton strategy or motives. The instructor should range widely for his examples, choosing the most modern and the most ancient, in pairs, to illustrate the same point if possible, on the principle of *plus ça change* . . . The more remote from the present some examples are the better, as the technique of modern war often obscures the basic truths."

In conclusion, the Editor would direct the reader's attention to a series of three excellent articles prepared by Colonel C. P. Stacey, OBE, Director of the Historical Section, Army Headquarters, and which deal with the application of the principles of war. The Journal is privileged to publish the first of these, "The Defence of Upper Canada," in this issue; the remaining two, "Amiens" and "Normandy," will appear in succeeding issues. As the titles indicate, military campaigns have been used by the author as a stage upon which to portray the successful employment of the principles of war. This series will be issued later in pamphlet form.

[1] *Published in the April 1948 issue of the Journal and later issued in pamphlet form.*

[2] *Published originally in the Army Quarterly (Great Britain) and reprinted in the February 1949 issue of the Journal.*

THE DEFENCE OF UPPER CANADA



PREPARED BY
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OTTAWA

The Principles of War can be illustrated by small campaigns as well as great, and by old campaigns as well as those of our own times. It would be difficult to find a series of operations providing a much better object lesson than those of 1812 in which Major-General Sir Isaac Brock defeated the attempt of superior United States forces to conquer the Province of Upper Canada. This campaign, fought nearly a century and a half ago against an adversary who is now our fast friend and essential ally, will repay study by anyone seeking enlightenment as to the qualities that make a great commander.

The Situation at the Outbreak of War

When the United States declared war in June 1812, General Brock was in command of the forces in Upper Canada and was also temporarily administering the civil government of the province. The military problem that faced him was one of extreme difficulty, for the force at his disposal was very small and the boundary line to be defended was very long.

There was only one British regiment of the line in Upper Canada — the 1st Battalion of the 41st (now the Welch Regiment). There was also a considerable detachment of the 10th Royal Veteran Battalion, another of the Royal Newfoundland Fencibles (chiefly employed as marines on the Lakes) and a few artillerymen. Behind these regular forces stood the provincial Militia, which was simply the men of military age organized in paper battalions on a basis of universal service, and at the outbreak of war virtually without training. A considerably larger British force, including five battalions of the line, was stationed in Lower Canada. All

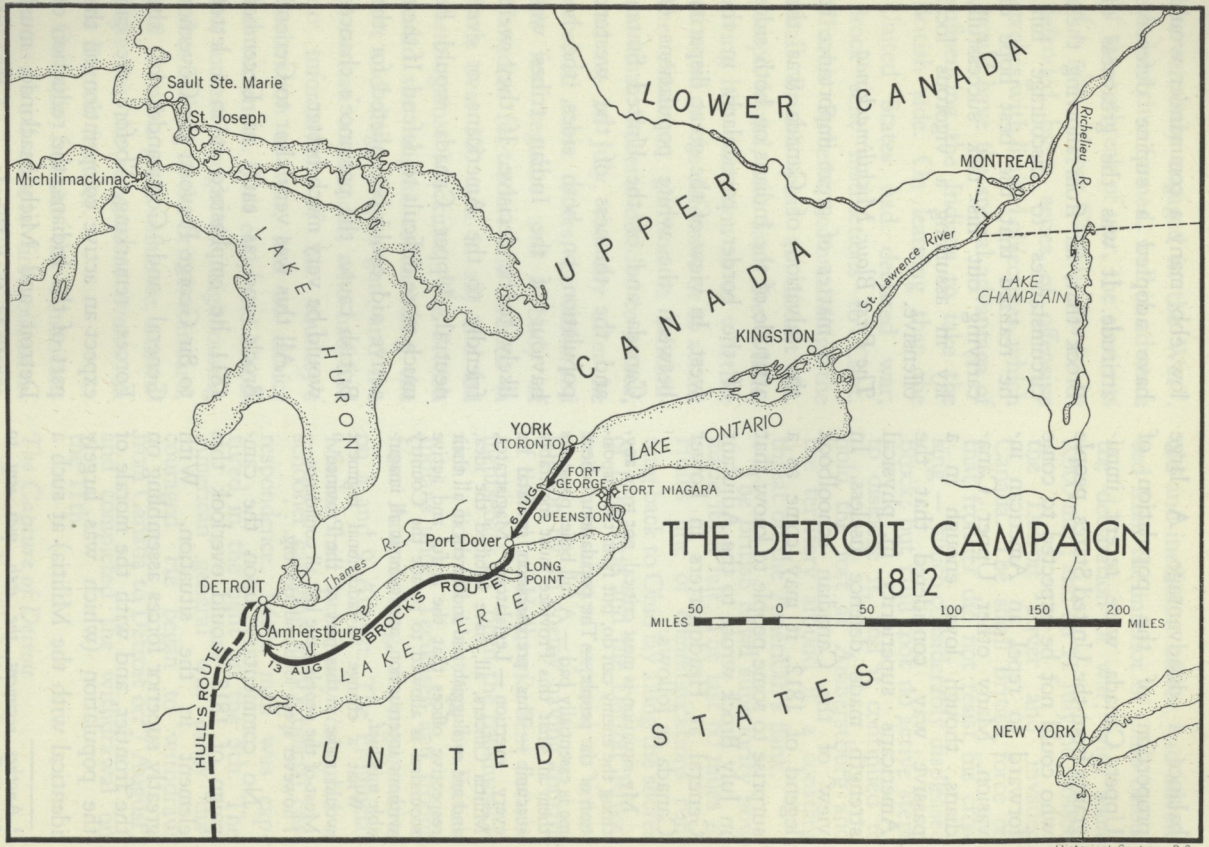
told, the two Canadas (now Ontario and Quebec) were defended by roughly 7000 troops fit to be considered regulars; of these, only a little over 1600 were in the upper province.

The United States Government had of course a relatively tremendous reservoir of manpower to draw upon, but its regular army was small. Though the establishment when war broke out was more than 35,000 all ranks, the actual strength was much less. The total number of regulars serving may have been in the vicinity of 13,000. Moreover, a large proportion of these were very recent recruits, and the effective force was certainly not superior to the British regulars in the Canadas alone. During the war, the United States called into service over 450,000 militiamen; but the average efficiency of these citizen soldiers, as events on the battlefield amply showed, was decidedly low.

The greater part of the British force had, however, to be retained in Lower Canada, for strategically this was the most important part of the country. Had the Americans followed a sound line of operations, they would have concentrated against Montreal, using the excellent communications available by Lake Champlain and the Richelieu River. The capture of Montreal would have severed the essential line of communication — that by the St. Lawrence — on which the defence of Upper Canada entirely depended, and the whole of that province would have fallen into their hands at an early date. The Americans, however, instead of acting in this manner, operated mainly against the frontier of Upper Canada, chopping at the upper branches of the tree instead of the trunk or the roots. In a long view this was fortunate, but it meant that the first shock of their attack had to be met by very inadequate British forces.

In the first months of the war, however, the defenders had one decided advantage: they possessed a distinct naval superiority on the Great Lakes. This was due to the existence of the force known as the Provincial Marine of Upper Canada. In a naval sense this force was very inefficient (it was primarily a transport service and was administered by the Quartermaster-General's Department of the Army); but its armed vessels were superior to anything possessed by the Americans on the Lakes in the beginning, and it was in great part responsible for the preservation of Upper Canada in the first campaign. It must be noted that at this time the land communications of the province were extremely primitive, the roads being very few and very bad. Only by water could troops be moved with any speed.

Against this advantage we must



Historical Section C.S.

balance a disadvantage. A large proportion of the population of Upper Canada were recent immigrants from the United States, people who could not be expected to come forward to repel an American invasion. Many other Upper Canadians, though loyal enough in a passive way, considered that the Americans' superiority in physical strength made defence useless. In view of the Canadian schoolbook legend of 1812, it may come as a surprise to some people to know that in July Brock wrote to the Adjutant General at Headquarters in Lower Canada as follows:

> My situation is most critical, not from anything the enemy can do, but from the disposition of the people — The population, believe me is essentially bad — A full belief possesses them all that this Province must inevitably succumb — This prepossession is fatal to every exertion — Legislators, Magistrates, Militia Officers, all, have imbibed the idea, and are so sluggish and indifferent in all their respective offices that the artful and active scoundrel is allowed to parade the Country without interruption, and commit all imaginable mischief. . .
>
> What a change an additional regiment would make in this part of the Province! ![1] Most of the people have lost all confidence — I however speak loud and look big. . .

No commentary upon the campaign of 1812 should overlook this element in the situation. With greatly superior forces assembling on the frontier, and with the morale of the population (which was largely identical with the Militia) at such a low ebb, many a commander would have adopted a supine defensive attitude. It was the greatness of Brock that, far from allowing these circumstances to discourage him, he realized that the best hope of carrying out his task successfully lay in assuming a vigorous local offensive.

The First Blow: Michilimackinac

A matter of great importance to the salvation of Canada was the attitude of the Indians on both sides of the border, particularly in the west. In view of the great disparity between the white populations of Canada and of the United States, and the thinness of the western population on both sides, the behaviour of the Indian tribes was likely to be decisive. If they were friendly to the Americans, or even neutral, Upper Canada would be much more difficult to defend. If their active aid could be enlisted for the British cause, the province's chances would be very much better.

All this was very clear to General Brock, and as early as December 1811 he emphasized it in a letter to Sir George Prevost, the Governor General and Commander of the Forces, remarking, "before we can expect an active co-operation on the part of the Indians, the reduction of Detroit and Michilimackinac, must convince that People . . . that we

[1] *Another regiment, the 49th, was sent to Upper Canada in August.*

are earnestly engaged in the War". He had thus formed, well in advance of the outbreak of war, the elements of a plan. Upper Canada was to be defended by a series of offensive strokes with limited objectives, which would have the special advantage of influencing the Indians to take the British side. On learning that the United States had declared war, Brock sent instructions to Capt. Charles Roberts, commanding the small British post at distant St. Joseph Island, near Sault Ste. Marie, giving him discretion as to whether to stand on the defensive or to attack the American garrison at Michilimackinac. Roberts decided to attack, and on 16 July, the day after he received these orders, he embarked his few regulars and a body of Canadian fur-traders and Indians (a little over 500 men in all) and led them against Mackinac. The British seized the heights commanding the fort and dragged up a gun; and the American commander, who had had no information of his country's declaration of war, had no choice but surrender. This early and bloodless success brought the neighbouring tribes flocking to the British standard, and it had a great influence, accordingly, on the subsequent events on the Detroit frontier.

On this frontier the Americans launched their first offensive. Brigadier-General William Hull, an old and inefficient officer, had advanced from the interior of Ohio before the declaration of war, with some 2,500 men; and on 11 July he crossed the Detroit River and invaded Canada. The small British force on that frontier did not resist his crossing — which considerably displeased Brock; but Hull took no active steps to dislodge it, and it continued to hold the fort at Amherstburg and the territory around it, a constant threat on the American's flank.

The British naval superiority now made itself felt. The last 60 miles of Hull's line of communications running back to Ohio lay along the shores of Lake Erie and the Detroit River, and was always exposed to interruption by an enemy having control of the water. Hull twice sent detachments back to "open the communication"; both were cut up, by British Indians under Tecumseh and troops from Amherstburg, in engagements on 5 and 9 August. The Provincial Marine had previously captured a schooner carrying Hull's official correspondence. More mail was captured in the fight on the 5th. The American general was easily discouraged. He began to withdraw from Canada to Detroit on 7 August, and completed the withdrawal on the 11th.

The Capture of Detroit

General Brock with his small forces

could not take the offensive at any point on the frontier without leaving other points unguarded, and had the Americans been enterprising and efficient his situation would have been impossible. As it was, his own first move was to the Niagara frontier, where he contemplated an attack on Fort Niagara. However, he did not attempt this, arguing that it was more important to get on with training the militia; and the Americans made no immediate offensive move in this sector. Brock then returned to York (now Toronto), the provincial capital, for the session of the legislature. This gave him an opportunity, in his civil capacity, of addressing himself to the province and giving a strong lead to its people, so many of whom were uncertain and disheartened.

By the time the Assembly was prorogued, it was clear that for the moment the main threat to Upper Canada was on the Detroit frontier. Brock immediately launched a vigorous counter-offensive. Hull's invasion and a bombastic proclamation which he had issued had considerably discouraged the Canadian militia along the Detroit; but when Brock asked those assembled at York for volunteers to march against the invaders, more came forward than transport could be found for. The general had already ordered a small regular reinforcement to Amherstburg. He had tried to organize a force to operate on the Thames, but this had been largely frustrated by the unwillingness of the militia in the nearby districts. He now dispatched 100 militiamen from York to the Long Point district on Lake Erie. At that place, he wrote to Prevost on 29 July, "I propose collecting a force for the relief of Amherstburg".

On the night of 5 August, the same day on which he prorogued the Assembly, Brock himself sailed from York for the head of Lake Ontario. Pushing rapidly on overland to Port Dover, he found the relief force awaiting him there, along with boats to carry them up Lake Erie. (Colonel Thomas Talbot, the redoubtable founder of the Talbot Settlement, had had considerable difficulty with the militia of the district, but had finally obtained a fair number of volunteers.) On the 8th Brock embarked his tiny "mass of manœuvre", which amounted in all to about 50 regulars and 250 militia with one 6-pounder, and, coasting along the lake shore, reached Amherstburg and made a junction with the British force there on the night of 13 August. Bad weather and bad boats had delayed the movement, which nevertheless seems very rapid in the existing circumstances.

The general immediately divided his whole force into three miniature "brigades", two consisting of militia

stiffened by small regular detachments and the third of the main body of the 41st Regiment. On 15 August orders were issued for crossing the Detroit and moving against the American army.

Few officers would care to cross a broad river with the prospect of attacking on the farther shore a force twice as strong as their own in a fortified position. Brock himself recorded afterwards that his colonels advised against it. The general, however, was taking a "calculated risk". The captured correspondence had told him how low was the Americans' morale and how discouraged their commander, and the very fact of their retreat from Canadian territory had further emphasized the poor state of their army. Even so, his decision remains a fine example of the offensive spirit which wins battles.[2]

On the evening of 15 August Brock opened fire upon Fort Detroit with five guns which had been emplaced on the Canadian shore. The bombardment inflicted some casualties and further discouraged the Americans; Brock had made a judicious contribution to the disintegration of poor Hull by sending him a demand for surrender which remarked that, while he did not intend to "join in a war of extermination", the Indians would "be beyond controul the moment the contest commences"; and soon after daylight on the 16th the little British force crossed the river in boats and landed three miles below Detroit. The army consisted of some 700 white troops, of whom 400 were militia, and 600 Indians, with five small field guns. The battery opposite Detroit was served on this day by gunners landed from the Provincial Marine. Although Brock does not mention it, Hull in his apologia emphasizes that the British landed "under cover of their ships of war", and it is clear that co-operation between the land forces and the Marine was close throughout.

Brock had planned to take up a strong position and trust to the effect of his artillery fire to compel Hull to come out and meet him in the open field. He now received information, however, that a detachment of 500 men had left Detroit three days before and that their cavalry were

[2] *Brock's own account of his appreciation of the situation has been preserved: "Some say that nothing could be more desperate than the measure, but I answer that the state of the Province admitted of nothing but desperate remedies. I got possession of the letters my antagonist addressed to the Secretary at War, and also of the sentiments which hundreds of his army uttered to their friends. Confidence in the General was gone, and evident despondency prevailed throughout. I have succeeded beyond expectation. I crossed the river contrary to the opinion of Cols. Procter, St. George, etc.; it is therefore no wonder that envy should attribute to good fortune what in justice to my own discernment, I must say, proceeded from a cool calculation of the* pours *and* contres." (Brock to his brothers, 3 September 1812.)

only three miles in rear of his own force. He accordingly took another bold decision — to make an immediate assault upon Detroit. The troops advanced upon the fort, but before the attack could begin the American commander sent forward a flag of truce and proposed a discussion of terms. The sequel was the surrender within an hour of Hull's whole army (including the detachment above referred to), with 35 guns and a great quantity of other arms and stores.

Thus General Brock had won a resounding victory and entirely removed the menace to the western frontier, almost without firing a shot. Well might he write to the Commander-in-Chief, "When I detail my good fortune Your Excellency will be astonished." There was, however, more than good fortune to thank for what had happened. The energy and boldness with which Brock himself had acted were the chief causes of this extraordinary result.

On Hull's own showing, it was the vulnerability of his communications (constantly exposed to interruption as a result of the British control of the water), and the fear of the Indians, that induced him to his ignominious surrender. As he put it, the loss of Mackinac had "opened the northern hive of Indians" and the expectation of the upper tribes "swarming down" upon his army went far to take the heart out of him. What the success at Mackinac had done in the case of the Indians the capture of Detroit may be said to have done among the white population of Upper Canada. This brilliant victory silenced the croakers and encouraged loyal citizens.[3] Canadians now realized that a successful defence of the country was quite possible. The militiamen whom so many had considered dupes suddenly became saviours and heroes, and before the year 1812 was over the Canadian legend that attributes the saving of the country primarily to the militia was already well on the way to establishment.

The Final Phase of the Campaign

Having saved the situation in the west, Brock handed over the forces there to a subordinate and rushed back east; he arrived at Fort George on the Niagara eight days after Detroit surrendered. For a time operations were suspended as the result of an armistice negotiated by Prevost, and during this period the United States brought up additional strength to the Niagara frontier.

On 13 October the Americans collected here began to cross into Canada at Queenston. Brock, with characteristic energy and offensive

[3] "*The militia have been inspired by the recent success with confidence — the disaffected are silenced.*" (Brock to his brothers, 3 September 1812).

spirit, galloped to the spot; and in leading the small force on the ground against the Americans, who had gained the summit of the escarpment, he fell in action. He never knew that the capture of Detroit had brought him a knighthood. His successor, General Sheaffe, collected all available troops and destroyed the invading force later in the day, winning a victory which further raised the spirits of the people of Upper Canada. In November another incompetent American commander made a gesture at invasion on the Niagara above the Falls, but this came to nothing. The campaigning season ended with no part of Upper Canada held by the Americans, and with an important section of the territory of Michigan in British occupation.

Although the war went on for two more years, the worst danger to Upper Canada had passed in 1812. In that year, when the British forces were so small and the morale of the population so low, the Americans had their great opportunity. That they failed to profit by it was due partly to their own unpreparedness, but to a large extent also it was due to Isaac Brock.

Comments

Although Canadian histories have rarely recognized this, the successful defence of Upper Canada was due in great part to the fact that the province was better prepared for war than the United States. The latter had a great superiority in numbers and physical power, but their power was not organized. The Mother Country had provided in Canada the elements of organized power which the Americans largely lacked: a naval force equal to controlling the Lakes and their connecting rivers; a small but efficient body of regular troops; and trained officers capable of skilful and energetic leadership. The forces were tiny, but in the circumstances they were enough.

There have been few campaigns in which the vision, energy and decision of a commander have been more influential than in this one of 1812. The manner in which Brock rose superior to discouragements which a lesser man would have used as excuses for inactivity may serve as an object lesson to every officer who would learn the arts of command.

Most if not all of the Principles of War as they are defined today could be illustrated from this campaign. We will mention only some which seem to appear in it with special clarity.

The whole campaign exemplifies in a particularly striking manner the importance of *Maintenance of Morale*. It was in great part superior morale that enabled Brock's force to impose upon and overcome Hull's; and this

superiority in morale was mainly the result of bold and effective leadership. In turn, the victory at Detroit itself gave a fillip to Canadian morale generally which made the continued defence of the country possible. There has never been a better illustration of Lord Montgomery's remark, "High morale is a pearl of very great price. And the surest way to obtain it is by success in battle."

It would be difficult also to adduce a better example of the dividends to be gained from *Offensive Action*. In spite of the odds against him, Brock saw the importance of seizing the initiative from the enemy and taking the offensive; and the results which he obtained should be an inspiration to every commander who is faced by superior forces.

Similarly, we see in this campaign a successful application of the principles of *Concentration of Force* and *Economy of Effort*. Brock could not concentrate *material* force superior to that of the enemy, but he did concentrate all the force he had the means to move. Of his superiority in *moral* force, there is no need to speak further. His resources were slender, but he employed them judiciously and produced at the decisive time and place a concentration which proved equal to the task. His operations also illustrate the principle of *Flexibility*. British naval superiority on the Lakes conferred upon him "physical mobility of a high order", enabling him to use his limited resources to the best advantage. The manner in which he was able to shuttle his forces freely and rapidly back and forth along the long frontier they had to guard compensated, to a considerable extent, for the forces' smallness, and made a great contribution to the saving of Upper Canada in this campaign.

BOOKS ON THE CAMPAIGN

C. P. Lucas, *The Canadian War of 1812* (Oxford, 1906).

W. Wood, *The War with the United States* (Toronto, 1915).

A. T. Mahan, *Sea Power in its Relations to the War of 1812* (London, 2 vols., 1905).

(Note: The foregoing narrative is based on documents contained in E. Cruikshank, *Documents relating to the Invasion of Canada and the Surrender of Detroit, 1812* (Ottawa, 1913), the same author's *Documentary History of the Campaign on the Niagara Frontier in the Year 1812* (Welland, n.d.) and W. Wood, *Select British Documents of the Canadian War of 1812* (Toronto, 3 vols. in 4, 1920–28)).

Changing Ideas

With scientific progress continually changing, human intelligence must also change. . . The army must become the centre of a broad and free flow of ideas based on rational foresight, scientific research, and knowledge of foreign ideas and accomplishments — *General de Lattre de Tassigny, France.*

Modern Man-at-Arms

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II: The Spirit of the Infantry Regiment

From an army vehicle on the way to the railway station after a visit to the School of Infantry a game of football was seen in progress. A war veteran corporal of The Royal Hampshire Regiment in the vehicle said it was a match between teams of that regiment and of the school, and jocularly it was suggested that as he was on the school staff he could happily shout for both sides. But "Oh no!" he said. "The Hampshires are my regiment, and a grand regiment, too. What's the school to me? I shout for the Hampshires, every time!"

The infantry regimental spirit, it seemed, was not dying, in spite of the discouragements of the post-war "group system." There is not much enthusiasm among infantrymen for the group system. Most of them concede that it must be accepted if necessary, certainly in war-time, with many other normally undesirable matters of expediency. In peace-time they have little to say in its favour, except that it is supposed to be better adapted to present conditions for recruiting the required numbers, and it affords greater ease of administration. These may be questionable advantages for which to sacrifice the strength and cohesion that came of the family spirit within self-contained regiments.

Remote Control

Within the individual regiment the character and capabilities of every officer, NCO, and man are fully known. In the "group" the control of all these individuals may pass to various impersonal higher

authorities. A regiment is no longer accepted as the proper authority on its own members. Two arguments used against the system are that the voluntary enlistment of re-engagement of Regulars is prejudiced by the required declaration of willingness to accept transfer from regiment to regiment within a group, or even to another corps, and also that the new promotion roll, a common seniority roll for all the regiments in a group, is thoroughly unsatisfactory as it results in NCOs being constantly liable on promotion to be taken for a large part of their service from the regiment of their native country or their choice.

The case for a return to the regimental system has been made in forthright fashion recently by an experienced infantry commander in a paper read privately, in which he said:—

"The infantry remains the first line of any army. Future developments may alter its status; but the ultimate aim of every arm to-day is to put the Infantry on to its objective, whether it be the next hill, the next river line, Berlin or Tokyo. In the later stages of a war, when the tide is flowing with you, it matters less how your battalions are made up. In the initial stages it matters a great deal. Hotch-potch battalions made up by cross-posting could not have acquitted themselves so well as ours did in the days of the defiles—1940 in France; 1940–41 in the Middle East. Battalions in those circumstances must sustain defeat and win experience without loss of morale; and they cannot do that without drawing on the last breath of pride and tradition."

Home of Traditions

At the School of Infantry they believe in and foster the regimental spirit; as a senior member of the staff put it, they like to have their establishment regarded as a real home for infantry and a repository of infantry traditions. When it was first set down at Warminster towards the end of the war as a development of the former GHQ Battle School at Barnard Castle there were many infantry commanders and former commanders who saw in it with apprehension the beginnings of a new, huge, characterless Corps of Infantry, designed by departmental soldiers with an eye solely to administrative convenience and no regard for the old "imponderable" factors, to supersede the regimental system. Much of this suspicion and resentment has been allayed; the school now proudly displays pictures and other decorative pieces presented by appreciative infantry units, and one wall of a lecture hall is covered with shields bearing the badges of individual regiments of the United Kingdom and the Empire oversea.

In the endless discussions, where soldiers gather, about the reorgani-

zation of the infantry and generally of its future, few complaints of the basic quality of the young men who constitute it to-day are heard. The national service recruits everywhere have won warm appreciation for their keenness. But the standard of proficiency and fitness for responsibility, particularly among the non-commissioned officers, is said to have fallen off noticeably. This decline seems attributable chiefly to the virtual disappearance after the war of the voluntary Regular Army with a high proportion of soldiers prepared to serve long terms with regiments of their choice. The post-war Regular battalions have been largely diluted with youthful national service men, most of them unlikely to remain with the units longer than the brief compulsory period, and too many Regular long-service soldiers have been too fully occupied in either instructing or doing fatigue work for national service men, to the detriment of their own proper training.

There is fairly general agreement that the most desirable thing is to get back to something like the old Regular Army with a high proportion of volunteers serving on long-term engagements in individual regiments, and that a parallel aim should be the ending of conscription. In the present circumstances of the world the latter ideal seems remote. To rebuild the voluntary Regular Army means in these days that substantial inducements must be offered.

These material inducements certainly are highly important and are tempting larger number of recruits and larger numbers of serving soldiers to re-engage; but there is more than that to this matter of re-making the Regular Army if that Army, particularly the infantry, is to be as good all round as its predecessors were in days when the pay and conditions for soldiers were far less tempting. There are men to whom material inducements are not everything, and consideration of men of this kind leads straight to the matter of the regimental system.

Even for him who enlists first for the material considerations something more is needed to fortify the foot soldier for his ultimate ordeal in the field—something beyond physical well-being and good weapons and training. Important though these be, they are, after all, no more than matters of efficiency in other professions or trades. But the natural object of soldiering is to fight, and to win, in battle, which is a matter involving extreme endurance of bodily hardship and facing with serenity horror and fear and the near prospect of wounds or violent death. That calls for a loftier, even a spiritual, factor that may well be absent from ordinary civilian pursuits. With the infantryman usually it is the regi-

mental spirit, derived from the regimental tradition and system.

A Wider Loyalty

But, though most fighting infantry soldiers and ex-soldiers hold warmly, some passionately, to this belief, there are individuals who feel that the regimental spirit, with all its vital force and importance, is not, in these complex times, enough. They point to the complete success in the matter of morale of the service spirit of the Royal Navy as a whole; of the RAF as a whole, and in the Army (which exhibits no comparable service spirit) of the corps spirit of the RA, the RE, and other specialist branches. The RAC particularly is cited as embracing a number of proud cavalry regiments whose cherished individualities seem not to have been greatly weakened by their inclusion for administrative purposes in the new corps. In this view, with the ever closer co-operation and interdependence between infantry and other arms and fighting services which modern warfare demands, the time has come for the foot soldier to extend his fine regimental spirit to envelop the whole body of the infantry, as the former horse soldier has done with regard to the RAC.

Private or Rifleman?

This perhaps inevitable development might be somewhat eased by the adoption of a better generic name than "private" for the lowest infantry rank. A designation corresponding to the "trooper," "gunner," "sapper," "signalman," and "craftsman" of other branches of the service is indicated. In certain kinds of infantry regiments there are, of course, already certain distinctive and jealously preserved designations — "guardsman," "fusilier," and "rifleman." The last-mentioned is in some quarters regarded as a thoroughly suitable name for the private soldier of the Line in common with his brother of the Rifle regiments—though it is doubtful whether the 60th Rifles or the Rifle Brigade would readily agree!

In the infantry messes and barrack rooms and canteens the discussions go on; compulsory military service and the wholly voluntary Army as national defence systems each have their supporters, but virtually nobody supports the group organization for the infantry. Yet it has been reluctantly accepted as the best thing possible for the present and in the hope that one day the regimental system will be restored. In the meantime, singularly enough, the status of the infantry is again high and remarkable numbers of cadets passing out of the Royal Military Academy are choosing to serve in it.

(Concluded)

ATOMIC SUBMARINE

Reprinted from the Army-Navy-Air Force Journal (U.S.)

An atomic-powered submarine—the first would cost an estimated $40,000,000 or about four times that of present fleet-type submarines—might be capable of extending greatly the operational range while completely submerged, and at speeds greater than of surface operation, Mr. K. A. Kesselring said in New York, before a recent meeting of the American Society of Mechanical Engineers. Mr. Kesselring is assistant head of the engineering division of the Knolls Atomic Power Laboratory, which the General Electric Company operates at Schenectady, N.Y., for the Atomic Energy Commission. The laboratory is now devoting its major effort to the designing, and later the construction, of a shipboard atomic power plant for the Navy. One application of this plant is expected to be in submarines.

He said that even though the snorkel breathing tube, introduced in World War II, now makes it possible for submarines to remain submerged for far longer periods than formerly, they are still tied to the surface since their diesel engines must be supplied with air. The atomic submarine, however, could cruise completely submerged, for periods limited only by the air requirements of the crew, stated Mr. Kesselring.

It could be designed for underwater cruising as the normal operation, he pointed out. Thus the hull design could be altered to improve its hydraulic characteristics so that, for the same amount of power delivered to the propeller shafts, its submerged speed would be even greater than what it could do at the surface, Mr. Kesselring, said. "In addition," he added, "full-speed underwater operation would be possible for extended periods reckoned in days rather than in minutes. And since the submerged speed could be enough to bring all surface vessels within its range, the submarine would become a wolf that could go after its prey, not, as in the past, a spider that must wait for its victim to approach."

Mr. Kesselring revealed some general facts about the submarine reactor being developed by the Knolls Atomic Power Laboratory. It will, he said, use an atomic reactor, operating at high temperatures, to produce heat. The heat, in turn, will be transferred from the fuel to a liquid metal in a closed low-pressure system, and thence to a boiler where steam will be generated to drive steam turbines of standard type.

"The power delivered to the shafts," he said, "will be greater than that now provided for fleet-type units.

DECEMBER 1941

The Defence of Hong Kong

By

COLONEL C. P. STACEY, O.B.E., A.M., PH.D., DIRECTOR OF THE HISTORICAL SECTION, ARMY HEADQUARTERS, OTTAWA.

PART 2

THE ATTACK ON HONG KONG

In spite of the optimism that had been current in London in September and October, the Japanese attack on Hong Kong did not take the garrison by surprise. Every battle position was manned and ready for action when it came. It is clear, however, that the energy and skill with which the attack was delivered were greater than the authorities on the spot had expected.

The plans agreed upon between the Japanese Army and Navy in November 1941 for their cold-blooded campaign of conquest included virtually simultaneous attacks at many points. Most important of these was the air blow struck at the United States fleet at Pearl Harbor, Hawaii; but the same day saw attacks on Northern Malaya, the Philippines, Guam, Wake Island and Hong Kong. The first bomb fell on Pearl Harbor at 7:55 a.m. on 7 December (Hawaiian time).[3] The attacks on the other points followed within a few hours as the daylight, sweeping westward, showed the successive objectives to the Japanese airmen. Both the Pearl Harbor and Hong Kong attacks were

* Reproduced from *The Canadian Army, 1939—1945*, published in 1948 by authority of the Minister of National Defence. 354 pp. with 12 paintings in colour by Canadian War Artists, and 18 maps, 15 of which are in colour. $2.50 post prepaid from King's Printer, Ottawa.

[3] *This is 12:55 p.m. 7 December Ottawa time, and 1:25 a.m. 8 December Hong Kong time.*

made just after first light; but the former thus preceded the latter by over six hours.

On 6 December (Hong Kong date),[4] Headquarters China Command at Hong Kong issued a warning of impending war and ordered all officers to keep in touch with their unit headquarters. Reports of Japanese concentrations opposite the frontier had been received, and further reports continued to come in. On the morning of 7 December the entire garrison was ordered to war stations. The Canadian force was ferried across from the mainland to the island, and by five in the afternoon the battalions had manned their battle positions and Brigadier Lawson's headquarters was set up in a group of shelters provided for the purpose at Wong Nei Chong Gap, in the middle of the island. The planned dispositions were thus completed some fifteen hours before the Japanese blow fell.

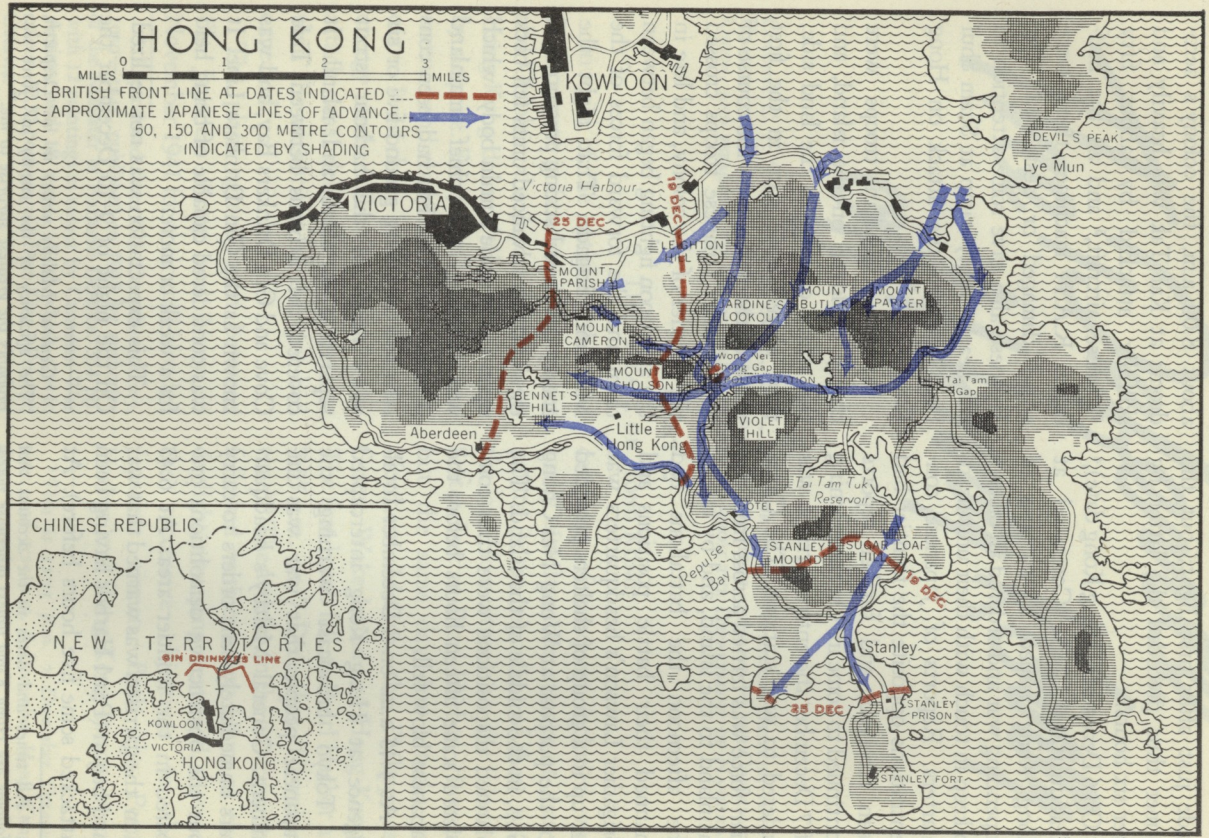
At 4:45 a.m. on 8 December Intelligence at Hong Kong intercepted a Tokyo broadcast warning the Japanese people that war was imminent. General Maltby's headquarters immediately sent orders to carry out the obstructive demolitions prepared in the frontier area. At 6:45 a.m. the garrison was warned that war had begun (Pearl Harbor having been attacked some five hours before). At about 8:00 a.m. the colony's aerodrome at Kai Tak was heavily and skilfully attacked by about fifty Japanese aircraft,[5] and all the half-dozen R.A.F. machines there were either damaged or destroyed. The Japanese also gave some attention to the nearly-empty camp at Sham Shui Po. So began the attack on Hong Kong.

As the Canadian troops were chiefly deployed on the island, and the attack came from the land side, they played little part in the first phase of the defence. In the course of 8 December Japanese troops crossed the frontier of the colony, and late in the afternoon fighting began between them and the forward forces of the Mainland Brigade. That night the enemy developed strong pressure and these British advanced units fell back upon the Brigade's main body, which was holding the chief mainland defence line. This line had been constructed on strong ground five or six miles north of the harbour strait separating mainland and island. It covered the isthmus between Tide Cove and Gin Drinkers Bay, and was known as the Gin Drinkers Line. It was considered capable of being held for a week or more.

This expectation was not realized. On the night of 9–10 December the

[4] *All times and dates in the account that follows are Hong Kong unless otherwise noted.*

[5] *General Maltby writes in his Despatch, "The efficiency of the enemy air force was probably the greatest surprise to me."*



Historical Section, G.S.

Japanese, showing an aptitude for night fighting with which the British had not credited them, surprised and captured Shing Mun Redoubt, a key position in the left sector of the line. On the same night "D" Company of the Winnipeg Grenadiers, which had been serving as a reserve company under direct control of the Island Brigade, was brought over to the mainland to strengthen this sector.[6] It was committed on the 11th, and while not heavily engaged established the claim of the Winnipeg Grenadiers to be the first infantry unit of the Canadian Army to be in action in the Second World War.

The loss of Shing Mun Redoubt was fatal to the hope of prolonged defence of the Gin Drinkers Line. At noon on the 11th orders were issued for the withdrawal to the island that night of all troops except the 5/7 Rajput, who were to hold the Devil's Peak Peninsula. The defence plans had assumed that this final foothold on the mainland could be held for a considerable time. The company of Winnipeg Grenadiers covered the withdrawal of the Royal Scots. It had some trouble with "fifth columnists" in Kowloon, but was back on the island in the early hours of the 12th. Some of the 2/14 Punjab, on the other flank, did not get away from the mainland until that night. The 5/7 Rajput beat off a strong Japanese attack on the afternoon of the 12th, inflicting many casualties; but General Maltby, finding that to supply them in their isolated position was going to be difficult if not impossible, and needing them to hold a sector of the island, now ordered them too to withdraw. This was accomplished under cover of artillery fire in the early morning of 13 December. By 9:20 a.m. that day the defenders of Hong Kong were entirely concentrated on the island. The mainland defence had lasted five days.

The forces were now reorganized into an East and a West Brigade. The former, commanded by Brigadier Wallis, consisted of the Royal Rifles and the 5/7 Rajput; the latter, under Brigadier Lawson, comprised the Royal Scots, the Grenadiers and the 2/14 Punjab. The Canadian signallers were now allotted to Lawson. The Middlesex were directly under Fortress Headquarters. Thus organized, the garrison faced its further ordeal. That it was to have no respite was indicated by the heavy artillery bombardment now directed at the island, which knocked out several of the defending guns on the 13th and 14th.

[6] *The outline of the operations of Canadian units which follows derives mainly from accounts, equivalent to unit war diaries, written subsequently in prison camps under the noses of Japanese guards and carefully preserved (in at least one case by being buried) until the day of liberation. The creation and preservation of these records is not the least of the debts which their country owes to the men of Hong Kong.*

Photo 1947 by courtesy of Major G. B. Puddicombe

Colonel Tanaka looks across Lye Mun Passage from Hong Kong Island to Devil's Peak on the mainland. His troops swarmed across this narrow water obstacle on the evening of 18 December 1941.

Varied by a series of destructive air raids, this bombardment continued for six days, steadily reducing the defenders' means of resistance. A systematic and effective shelling of the pillboxes along the north shore was particularly ominous.

The Landings on Hong Kong Island

On 13 December the Japanese demanded the surrender of Hong Kong and received a brusque refusal. On the night of the 15th-16th, an apparent landing attempt at the north-east point of the island was successfully repulsed. On the 17th the enemy renewed the demand for surrender, accompanying it with what amounted to a threat of indiscriminate bombardment. Their envoy was "apparently genuinely surprised and disconcerted" when this proposal too was summarily rejected. The colony still presented a brave front, but its fall was only a question of time. The most that could now be hoped for was to prolong the defence and inflict as much damage as might be upon the enemy; as the Governor told General Maltby, "every day gained was a direct help" to the Allied cause. The crippling blow inflicted upon the United States fleet at Pearl Harbor, and the sinking of H.M.S. "Prince of

Wales" and H.M.S. "Repulse" by Japanese aircraft off Malaya on 10 December, had put an end to the possibility (never very great) of relief by British or American forces; and the Chinese armies were not in a position to give the immediate aid which was required.

About 8.30 p.m. on 18 December the final and most desperate phase of the Hong Kong battle set in. In the darkness the Japanese began crossing the island's narrow moat in small boats towed by ferry steamers. They poured ashore in large numbers on a front of about two miles at the north-east corner, disregarding heavy losses inflicted on them by the 5/7 Rajput who held the pillboxes there. Then, having overcome the defenders of this area, the enemy, displaying the energy, the skill in night fighting and the accurate knowledge of the terrain and of our defences which were in evidence throughout the operations, fanned out to east and west and advanced up the valleys leading to the high ground in the centre of the island. By morning he had infiltrated as far as Wong Nei Chong and Tai Tam Gaps.

The first Canadian troops to come into action were those of "C" Company of the Royal Rifles, which was in reserve in the area adjacent to the landings. In unsuccessful counter-attacks which it delivered during the night this company both suffered and inflicted heavy casualties. During the night also platoons from other companies of the Rifles sought to prevent the enemy from gaining Mount Parker (1700 feet) or to evict him from the positions he had reached. Many men were lost in this endeavour, but dawn found the enemy in possession of the summit of the hill. During the morning of the 19th General Maltby authorized the East Brigade to withdraw southward towards Stanley Peninsula. Operations by scattered platoons had accomplished nothing, and it was now hoped to concentrate the troops on this part of the front in a strong group capable of effective counter-attack. The withdrawal took place that afternoon and a line was occupied running through the vicinity of Stanley Mound. The Brigade now consisted of little but the Royal Rifles and some companies of the Volunteer Defence Corps, for the Rajput battalion had been virtually destroyed in the fighting about the enemy's points of landing. Unfortunately, some much-needed mobile artillery was destroyed by our own forces during the withdrawal, apparently through a misunderstanding of orders. Still worse, the enemy soon reached the sea west of Stanley and our force there was then cut off from the main body in the western part of the island.

The Royal Rifles were not in good condition. For several days before the enemy landings the men had had no

hot meals and no sleep except what they could catch in the weapon pits which they were continuously manning. Even in the earliest stage of the island fighting, it is recorded, "some would fall down in the roadway and go to sleep, and it took several shakings to get them going again". For this exhausted and weakened battalion, counter-attack in the mountainous terrain of Hong Kong was a task of desperate difficulty. Nevertheless, during the next three days Brigadier Wallis's force at Stanley made a series of brave efforts to drive northward and join hands with the main body or evict the enemy from the high peaks which he had seized.

The first attempt took the form of a leftward thrust along the shore of Repulse Bay in the hope of making contact with the West Brigade around Wong Nei Chong Gap. This broke down about noon on the 20th in the face of fierce machine-gun fire from hill positions, after the leading troops had cleared the area about the Repulse Bay Hotel. One company of the Rifles was left to hold this area and thereafter was isolated. Next day another attack was made with the object of reaching Wong Nei Chong by a more easterly route. It ran into heavy opposition south of Tai Tam Tuk Reservoir. A succession of determined attacks drove the Japanese from positions on the hills round about, and destroyed a party holding the crossroads south of the reservoir; thereafter a counter-attack by Japanese light tanks was beaten off; but further advance proved impossible. On the same evening the detached company at the Repulse Bay Hotel moved north and made contact with a party of British troops holding a house a few hundred yards short of Wong Nei Chong Gap. This position was held through 22 December against heavy enemy pressure. After dark the garrison again withdrew to the vicinity of the Hotel, and the Hotel itself was ordered evacuated later that night. Only about the equivalent of a platoon of the troops here managed to filter back through the enemy's lines and join the force at Stanley.

No further attempts were made by Wallis's force to drive north, for 22 and 23 December brought constant attacks upon it by the Japanese. On the former day the enemy took Sugar Loaf Hill, and the Royal Rifles took it back again. Another company, however, lost Stanley Mound and did not succeed in recovering it; and late in the afternoon of the 23rd the whole force had to be pulled back to Stanley Peninsula. Next day the Royal Rifles were taken out to Stanley Fort, well down the peninsula, for a rest, while the Volunteer Defence Corps companies and other available troops held the line. The Rifles had to be brought back in the early hours of Christmas

Day because of increasing Japanese pressure. Brigadier Wallis ordered a counter-attack to recover ground lost during the night near Stanley Prison. "D" Company delivered it early in the afternoon. There was no artillery support, for the coastal guns lower down the peninsula could not bear. The company suffered very heavy casualties before the attack came to a halt. In the early evening another company was moving forward under fire when a car flying a white flag came down the road with the news that the Governor had surrendered the Colony.

Defence of the Western Part of the Island

We must now go back a week and deal with the fortunes of the West Brigade and the Winnipeg Grenadiers.

The first men of the Grenadiers to go into action on the island were three platoons organized as "flying columns" for swift and immediate counter-attack. All three moved forward after the enemy landings on the

Photo 1947 by courtesy of Major G. B. Puddicombe

Colonel Tanaka Ryosaburo, who commanded the 229th Japanese Infantry Regiment at Hong Kong, and was later sentenced to twenty years' imprisonment as a war criminal, looks down on the Repulse Bay Hotel where his troops fought the Royal Rifles of Canada.

night of 18–19 December. Two of them were directed respectively upon the hills known as Jardine's Lookout and Mount Butler. Both were repulsed by the advancing enemy, and both platoon commanders were killed. Early in the morning of the 19th, Brigadier Lawson, whose headquarters was still at Wong Nei Chong Gap, ordered "A" Company of the Grenadiers to engage the enemy on Jardine's Lookout and thence advance to Mount Butler. The company pushed forward boldly and at first made excellent progress, but in the end, in spite of great gallantry, came to disaster. In the words of the battalion report, "After stiff fighting during which the Company was surrounded and attacked by superior numbers, all officers, N.C.Os. and men, with a very few exceptions, were killed, wounded or taken prisoner. All officers were killed or severely wounded."

During the company's advance it had become divided. Survivors later testified that one party led by Company Sergeant-Major J. R. Osborn (a veteran of the First World War) got through to Mount Butler, captured the summit at the point of the bayonet and held it for three hours. The position then becoming untenable owing to the enemy's superior numbers and fierce fire, Osborn withdrew his party, himself covering its retirement, and succeeded in rejoining what was left of the rest of the company. The whole body now attempted to pull back to Wong Nei Chong, but found itself surrounded. Enemy grenades began to fall in the company position, and Osborn caught several and threw them back. At last one fell where he could not retrieve it in time; and the Sergeant-Major, shouting a warning, threw himself upon it as it exploded, giving his life for his comrades. A sergeant who had stood beside him believed that this sacrifice saved him "and at least six other men who were in our group". Not many minutes after Osborn's death the Japanese finally rushed the position and the survivors of "A" Company became prisoners. After the final defeat of Japan, C.S.M. Osborn's gallantry was recognized by the award of the Victoria Cross.

When it became clear that the Japanese were close to the West Brigade headquarters, Brigadier Lawson decided to withdraw it to a site previously selected some distance in rear. Before the withdrawal could be completed, the Wong Nei Chong position was overrun. About ten in the morning of 19 December Lawson reported to Fortress Headquarters that the enemy was firing into his shelters at point-blank range and that he was "going outside to fight it out". He did so and in doing so lost his life. No eye-witness survived to

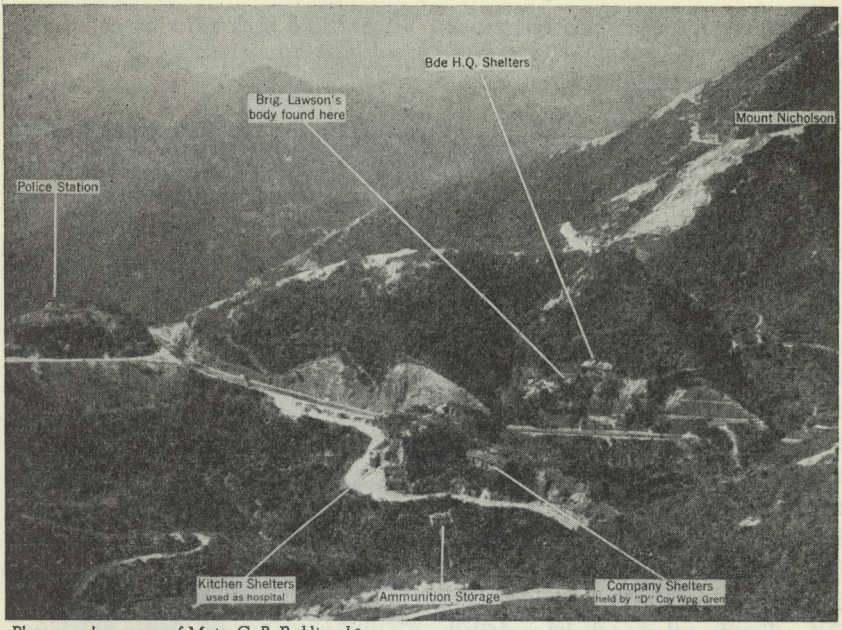


Photo 1947 by courtesy of Major G. B. Puddicombe

Wong Nei Chong Gap, scene of some of the fiercest fighting in Hong Kong. The resistance offered here delayed the Japanese operations for three days and cost them heavy casualties.

tell the story of his last fight. About twenty-four hours later the Canadian officer next in seniority was also dead; for Colonel Hennessy was mortally wounded when a heavy shell struck the house allotted to him as office and quarters. The West Brigade had no commander from the time of Brigadier Lawson's death until the morning of 20 December when Colonel H. B. Rose of the Hong Kong Volunteer Defence Corps was appointed. During this period operations were co-ordinated by Fortress Headquarters.

For nearly three days after the Brigadier's fall "D" Company of the Grenadiers held out in its position near the headquarters in Wong Nei Chong Gap. During this period it denied the Japanese the use of the one main north-south road across the island, and killed, it is estimated, over 200 of them.[7] Enemy accounts

[7] *Colonel Shoji, who commanded the Japanese "butai" (evidently roughly equivalent to a brigade group) which was operating in this area, states that on the evening of 20 December he "apologized" to his divisional commander for having incurred so many casualties (approximately 800).*

leave no doubt that the resistance offered here considerably upset the Japanese plans and delayed their advance for three days. Only on the morning of 22 December, when ammunition, food and water were exhausted and the enemy had blown in the steel shutters of the company shelters with a light gun, did the senior surviving officer surrender the position, in which there were then 37 wounded men. A series of uncoordinated attacks by companies of the Grenadiers and the Royal Scots had failed to achieve their object of capturing the Japanese-held Police Station in the Gap and relieving "D" Company. In the last of these, on the night of 20–21 December, the Grenadiers lost three subalterns killed, and every other officer engaged was wounded.

The final phase of the fighting in the western part of the island took the form of a brave attempt to maintain a continuous line across it from Victoria Harbour to the south shore, under continuous bombardment and air attack and constant pressure by Japanese infantry. On the morning of 21 December the Winnipeg Grenadiers occupied Mount Cameron, an important height in the centre of the then existing line, with orders to hold it against any further enemy advance. They did hold it, under heavy dive-bombing and mortaring, through that day and the next, but were forced back off it by a Japanese attack in the darkness of the night of 22–23 December. British troops stabilized the situation on the western slopes of Mount Cameron and on the following night the line still ran over its western end. The left was held by remnants of the Middlesex (who were clinging gallantly to Leighton Hill) and of the Indian battalions; the Royal Scots were on Mount Cameron; the Grenadiers held the sector thence to Bennet's Hill, and on the extreme right were naval platoons. There were still some elements of the Middlesex holding out around a magazine at Little Hong Kong. On the afternoon of 24 December Leighton Hill was lost and the enemy made further progress in the Mount Cameron area. The Grenadiers however held positions on the south slope against heavy attacks, and some ground lost at Bennet's Hill was regained by a counter-attack at first light on Christmas morning.

The Fall of Hong Kong

The dawn of this, the Allies' grimmest Christmas of the war, found the defenders of Hong Kong in desperate straits. Nevertheless, when the Japanese that morning sent two civilian prisoners with a third demand for surrender, it was still refused. A partial truce of three hours' duration resulted from this overture. When it expired at midday

the Japanese attacked immediately. On the left Mount Parish fell, Wan Chai Gap west of Mount Cameron was taken, and the enemy was close to Fortress Headquarters. Bennet's Hill was apparently still held, but the Canadian line to the north gave ground. All communication with the isolated force in Stanley Peninsula had ceased. The water supply for the city of Victoria had been cut off for more than two days, and the fighting troops were feeling the shortage. The main body had only six mobile guns remaining with an average ammunition supply of 60 rounds per gun. General Maltby now decided that more fighting meant merely useless slaughter. At 3:15 p.m. he advised the Governor that no further military resistance was possible, and the white flag was hoisted. As we have seen, a party was sent to inform Brigadier Wallis of the surrender. He asked for written confirmation, and although fighting ceased at once the formal capitulation of the force at Stanley was delayed until the early hours of 26 December.

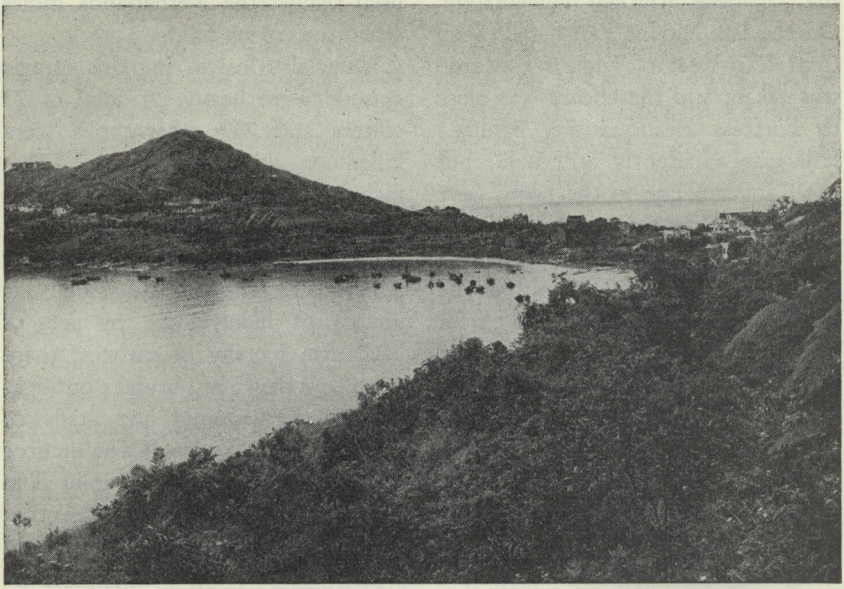
Thus the defence of Hong Kong came to an end, after seventeen and a half days of fighting. The colony had fallen more rapidly than had been expected; but very heavy casualties had been inflicted on the enemy and some delay imposed upon his further operations, for the troops employed at Hong Kong were to be used against the Netherlands Indies when the colony fell.[8]

Canada's losses in this tragic episode were heavy. A total of 23 officers and 267 other ranks were killed or died of wounds.[9] This includes a number who were wantonly murdered by the Japanese at the time of their capture or shortly afterwards. The enemy sullied his victory at Hong Kong by acts of barbarism worthy of savages; there were particularly brutal outrages against the patients and staffs of hospitals and aid posts.[10] The number of Canadians wounded or injured in action was 14 officers and 278 other ranks; in addition, eight officers and

[8] *For the Japanese plans, see United States Strategic Bombing Survey (Pacific), Naval Analysis Division,* The Campaigns of the Pacific War *(Washington, 1946). Hong Kong was attacked by 'one Group of the 23rd Army'. (A Japanese Army was equivalent to a British or American Corps.) The troops actually employed were the 38th Infantry Division, strongly reinforced with extra artillery and other elements. It was estimated that there were the equivalent of one and a half Japanese divisions on Hong Kong Island at the time of the surrender. Information from Japanese sources indicates that the Japanese lost 675 men killed and 2079 wounded.*

[9] *Brigade Headquarters, including Signals, four officers and 16 other ranks; Royal Rifles of Canada, seven officers and 123 other ranks; Winnipeg Grenadiers, 12 officers and 128 other ranks. These casualty figures include four soldiers of the Winnipeg Grenadiers subsequently shot by the Japanese without trial when captured after escaping.*

[10] *Major-General (formerly Col.) Tanaka Ryosaburo, who commanded one of the infantry regiments which attacked the island, was in due course tried by a War Crimes Court for his part in these atrocities and sentenced to twenty years' imprisonment.*



Royal Canadian Navy Photo

Stanley Peninsula, Hong Kong (part of Stanley Village at right). The Royal Rifles of Canada fought in this area in the final phase of the defence.

57 other ranks are recorded as suffering wounds at the time of their capture.

The harrowing experiences of the prisoners can only be outlined here. Until early in 1943 all the Canadians were kept in camps at Hong Kong. Mainly as a result of conditions in these camps, four officers and 124 other ranks died there.[11] A diphtheria epidemic in the summer and autumn of 1942 took many lives. From January 1943 onwards a total of one officer and 1183 other ranks were taken to Japan, where they were forced to work in various industries, chiefly mining. Here again conditions were extremely bad, as evidenced by the fact that 136 of these men died. Of the 1973 Canadian soldiers who sailed from Vancouver in October 1941, there were 557 who never returned to Canada.[12]

[11] *Col. Tokunaga, Commandant of the Hong Kong prison camps, and Capt. Saito, Medical Officer, were tried by a War Crimes Court at Hong Kong in October 1946—February 1947 and sentenced to be hanged. The sentences were subsequently commuted to life imprisonment and twenty years' imprisonment respectively.*

[12] *One man had died on the original voyage to Hong Kong.*

The sudden attack by Japan resulted in the Canadians who helped to defend Hong Kong going into battle in very unfavourable circumstances. Dispatched to the Far East to serve as garrison troops, at a time when, as we have seen, immediate hostilities were not considered probable, they found themselves plunged abruptly into action without having undergone the concentrated and rigorous battle training which later fitted Canadian soldiers for operations in Italy and North-West Europe. They had no chance for the gradual acquisition of battle wisdom through experience. The extraordinarily rugged and largely unfamiliar terrain of Hong Kong was one of the hardest battlefields on which Canadians fought in any theatre; and after their long sea voyage, followed by brief training for a static role which was never realized, the Royal Rifles and Winnipeg Grenadiers were not in the best of shape for fighting on scrub-covered mountainsides. These adverse circumstances inevitably reduced the units' tactical efficiency. How hard they fought in spite of such conditions, their casualty lists fully and poignantly show.

(Concluded)

CONTAINERS FOR PARATROOPS

The awesome spectacle of paratroopers sweeping down from transport planes may become as obsolete as cavalry horses.

Paratroopers may still go out the big door, but all that . . . an enemy will see will be giant containers—each capable of supporting 6,000 pounds, looking like a framework of tubes and mounted on a metal landing skid topped by plywood flooring. No soldiers in sight.

Engineers at Wright-Patterson Air Force Base in Dayton (Ohio) disclosed that tests are beginning on containers designed to drop an entire infantry squad with its equipment from a plane.

Four movable aluminum compartments, triangular in shape, are attached to the tube framework. Men and equipment are packed inside these compartments. Two 100-foot parachutes would be used for loads up to 6,000 pounds.

A small pilot parachute would release a 16-foot extraction parachute which would pull the container from the plane. Its landing would be cushioned by four barrel-shaped air bags. These would inflate as the container floated down. — *News Report.*

Partisan Operations

Colonel Albert E. Harris, Cavalry Instructor,
Command and General Staff College*

Modern warfare includes many phases other than just the engagement of armed forces. One of these phases, called "partisan operations", involves the application of economic, political, and psychological, as well as military, pressures. It has proved a valuable weapon in past wars.

It might be well to pause before delving into this subject to present a few definitions. People who are devoted adherents of a party, faction, or cause are classed as partisans. Thus, the American revolutionists, adherents to the cause of freedom, were partisans. On the other hand, members of any subversive group within this country who are followers of a foreign ideology must likewise be classified as partisans.

The dictionaries have defined partisans as members of a detached body of troops engaged in irregular warfare, with the principal mission of harassment. Such a definition is not entirely satisfactory because, in its broader aspects, partisan operations include more than open active resistance by isolated troop units. Partisan operations may be typified by guerrilla action, but they also include the passive resistance of underground groups, as well as related acts of espionage, sabotage, and propaganda.

Historical Basis

The military use of partisans is not a recent innovation. Some specific historical examples will serve to illustrate this point.

During the early years of the settlement of North America, the American Indians were employed as partisans by the French and by the British. The Indians resented en-

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*Reprinted from the Military Review (U.S.). In his preface to this article, the Editor of the Review states: "The views expressed in this article are the author's and not necessarily those of the Department of the Army or the Command and General Staff College."—Editor.

croachment of the colonists on their hunting grounds and were easily persuaded to take up guerrilla warfare against the settlers. The French aided and abetted the Algonquin, the Huron, and part of the Iroquois tribes in a resistance move against the expansion of the colonies from 1753 to 1761. Later, the six Indian nations (Mohawk, Seneca, Cayuga, Oneida, Onondaga, and Tuscarora) were employed by the British as partisans against the colonies. The warfare practiced by these Indians was definitely guerrilla warfare.

In 1808, Napoleon was unable to overcome the partisan forces of the Iberian Peninsula. The Spanish Army was no match for the seasoned, well-armed French forces; but the success of the Spanish partisan groups offset the failures of the Army. The desire of the Spaniards for freedom occasioned widespread uprisings, characterized by stubborn, almost fanatic, resistance. The rugged terrain of Spain was ideally suited to partisan warfare. When Napoleon was finally forced to abandon Spain, his initial force of over 300,000 had been reduced to considerably less than half. Even recognition of the effectiveness of the English forces under Wellington does not reduce the over-all evaluation which must be placed upon the accomplishments of Spanish partisans.

During World War II, partisan resistance movements were widespread. They were known by various names such as the French *Maquis*, Italian Partisans, Belgian Underground, Russian Guerrillas, Philippine Guerrillas, the guerrilla forces of the Chinese National government and the Chinese communists, the aborted German Werewolf, and many others. Despite the differences in names and in the type of activities conducted, they were all partisan forces.

In France, prior to World War II, there were Frenchmen sympathetic to Nazi aims. When the Germans invaded France, they exploited these individuals and groups by using them to conduct sabotage and to spread rumors and confusion. Such traitorous acts were highly valuable to the Germans in breaking French morale and developing a spirit of despair.

However, the strong feeling of French nationalism and hatred of the Germans held by most French people were not suppressed by German occupation and resulted in the development of several partisan groups. The largest of these was the *Maquis*, totalling approximately 300,000. All partisan groups were later united into the French Forces of the Interior (FFI), with a total strength of nearly a half million. The activities of the FFI were directed by SHAEF when it came into being, although some of the French communist forces also

received direction from Moscow.

The activities of the FFI proved of valuable assistance to the Allied Forces during the military operations in France, particularly during the establishment of the initial beachheads. In co-ordination with the landings, the partisan forces destroyed telephone and telegraph lines, demolished roads and bridges, attacked installations and depots, ambushed and attacked German units, and conducted many other activities of this general nature. The operation of the FFI did much to isolate the German defence units in the beachhead areas and to delay the movement of reserve units.

The activities of partisan forces in Belgium, Holland, and Denmark developed along different lines. The topography and density of population of these areas were not well suited to the development of guerrilla activities. The countries are small with comparatively large populations; and open resistance could have been easily isolated and eliminated. Thus, the activities of the partisan forces developed along the lines of passive resistance, typified by wastage of materials, imperfect workmanship, general slow-down movements, subtle forms of ridicule of the occupying forces, and scores of similar acts.

These clandestine partisan movements were all successful in reducing the German capacity and will to resist, and they provided a fruitful source of information to Allied Headquarters. Along with their French colleagues, partisans in the low countries played an effective role in the war of nerves, which is a part of psychological warfare. No action was decisive, but all actions served to harass the enemy.

Long before World War II, the German General Staff recognized that the Soviet Union was placing guerrilla or partisan operations on an equal footing with regular tactical operations. Nevertheless, the Germans developed no effective counter measures. Their occupation policies, particularly in the Ukraine, gave impetus to partisan activities rather than suppressed them. From the fragmentary reports of the campaign in Russia, we learn that German losses in personnel, weapons, and equipment at the hands of the Russian guerrillas were of critical importance.

Types of Operations

There are two broad categories of partisan operations, the open, overt, or guerrilla type; and the underground, covert, or clandestine type.

Let us first discuss the overt type. Forces of this nature are organized, trained, and equipped to operate along military lines. They usually develop in areas which are difficult of access, such as mountains, forests, and jungles which provide the exten-

sive cover and concealment essential to guerrilla type operations. Since the partisans are normally natives of the area, they are familiar with all of the trails, hideouts, and short cuts. Their operations are offensive in nature, typified by numerous raids and ambushes conducted by small parties. All operations are characterized by surprise and mobility. The area for the operation is selected to gain surprise. Maximum fire power is suddenly directed upon the enemy; the partisans then vanish in the resulting confusion, before the enemy can bring his fire to bear upon them. Defensive action is avoided because the superiority of the enemy's armed forces and equipment may result in the destruction of the partisan forces.

Now we will turn to the underground or covert type. Partisan organizations of this category usually develop in cities, towns, and heavily populated areas. Their activities include passive resistance, sabotage, espionage, and general subversion through the spreading of rumors, underground newspapers, and leaflets. The operations of these clandestine partisan forces are characterized by secrecy and stealth. If overt action is contemplated in heavily populated areas, it must be planned and coordinated with military operations in order that the partisan forces may be quickly relieved.

The result of the Polish uprising in Warsaw under General Bor is an excellent example of what usually happens if such co-ordination is not effected. In this instance, the Russian armies besieging Warsaw stood off deliberately until the defending Germans had completely annihilated General Bor's forces, thereby eliminating a strong partisan faction which would have subsequently been troublesome to the Soviet occupation of Poland. On the other hand, the partisan uprising in Paris in August 1944, which coincided with the arrival of the Allied forces, illustrates the measure of success possible with proper timing.

In a large country, which contains both built-up areas and inaccessible regions, the development of both types of partisan forces may be expected. In all probability, there will be no definite organizational or operational pattern. Partisan forces will vary according to the terrain, the character and density of the population, the supply of arms and equipment, the presence of strong and determined leaders, and the methods employed to counteract their operations. Consequently, an intensive study and analysis of all factors must be made either to develop and employ partisans, or to organize a defence against them.

Development of a Force

Let us now turn to the develop-

ment of a partisan force. Normally, partisan forces develop through gradual stages of progression. The first stage is the effort, usually aided from without, to alienate the people from their existing or occupying government. At first, such a movement involves individuals or small groups of determined men. Initial operations are simple acts of sabotage, pamphleteering, or minor forays of little real significance against the government. However, the fact that the partisans are able to conduct these acts bolsters their confidence and brings in additional followers to add strength to the movement.

As operations gain in scope and frequency, the spirit of resistance becomes more defiant. As the movement gains momentum, many persons who have been reluctant to join are converted to the cause and recruited for the resistance forces. Eventually a full-scale resistance movement is established. This can be considered the normal evolution of partisan forces in war. The span of organization will be in terms of years rather than days or months. In much of the world today, however, there exist militant political groups which are compactly organized during peace, and are thus capable of overnight conversion to wartime activities.

A highly important feature in the creation of any partisan force is the assistance rendered by outside agencies. In World War II, it was of vital concern to this nation and to our allies to have effective partisan forces operating in territories occupied by the Axis. We supported partisan activities by supplying arms, ammunition, radio equipment, and many other items. We also provided personnel to train partisans in the use of such equipment and to assist them in organizing and developing their forces. The moral and the physical support rendered by the Allies was of tremendous importance. Without outside assistance, the time required to create such forces would have been increased many times over.

The demands of modern warfare being what they are, a nation must employ the bulk of its man power in producing and supplying weapons and equipment to the fighting soldier. The net result is that a relatively small percentage of the total population is available for combat duty. Therefore, it is necessary to enlist the aid of allies, be they friendly powers or partisan forces.

In order to employ partisan forces so as to bring the maximum pressure to bear upon the enemy it is essential to appreciate the capabilities and limitations of these forces. Conversely to establish a defense against attack by unfriendly partisan forces, the commander must be able to determine the capabilities of the enemy's

partisans in the same manner that he estimates the capabilities of the enemy's armed forces.

Although some of the activities conducted by partisan forces may be strategic in nature, others are primarily tactical. Paramilitary or guerrilla action is principally in the form of raids and ambushes. Guerrilla partisan forces operate in small bands employing hit-and-run tactics. By surprising the enemy, they are able to inflict heavy casualties with negligible losses to themselves. They force the enemy into adopting combat formations for administrative movements. The enemy is forced to employ combat troops to guard installations and lines of communications, thereby reducing his effective fighting strength at the front. The presence of partisans over a wide area makes it difficult for the enemy to move his reserves. Paramilitary partisan operations will always be most effective when co-ordinated with the military effort.

Sabotage

Sabotage derives its name from an old French practice of throwing wooden shoes (sabots) into machinery to slow down production. Sabotage is still defined as destruction of or injury to property to stop or slow down a nation's war effort, and it can be performed by any person who is not a lawful belligerent.

Some sabotage will be simple acts conducted by the untrained saboteur with ordinary tools, such as a knife to cut things, water or sugar to adulterate gasoline, or household matches to start fires. The potentiality of the use of these tools, coupled with imagination, is tremendous. Other acts of sabotage will be committed by trained saboteurs. The civilian occupations, military training, or skill in the use of specialized sabotage devices, explosives, and the like, qualifies specific saboteurs for attacks on targets such as power plants, bridges, or ships.

Sabotage targets may be classed under two headings: industrial targets, and military targets. Industrial targets include factories and industrial establishments, as well as the utilities and the transportation and communications systems which supply them; natural resources, such as mines and oil wells, and the smelters and refineries which process raw materials. Military targets include military installations, vehicles, aircraft, ships, weapons, roads, bridges, and communications.

Individuals or partisan groups will be able to attack all types of sabotage targets, but the effectiveness of the attacks will vary. The nature and location of the partisan forces will dictate the targets which might be sabotaged. Industries are normally located in the population centres;

therefore, we can expect the covert type force to direct its main effort against them. The guerrilla forces will be able to sabotage certain industrial targets such as isolated plants, communications installations, transportation, and, possibly, natural resources. Military targets may be present in all areas.

For greatest effectiveness, sabotage is aimed at critical points or bottlenecks. An entire rail line may be disorganized for days by destruction of a large bridge or tunnel. The elimination of power supply will stop industries. Planning is important in sabotage, and so is clear direction. Failure to designate targets may result in a dispersal of effort or in damage to communications or installations which are of negligible value to the enemy but of great future value to us. Therefore, all sabotage activities should be carefully planned and co-ordinated with the military effort.

Passive resistance is often led by members of clandestine partisan forces. In effect, these activities are another form of sabotage although they are not necessarily acts of violence. For example, in industry, wastage of materials, improper workmanship, and slow-downs in work will greatly reduce the production of an industrial plant. Other acts of passive resistance are aimed at the morale of the enemy's armed forces and administrators. These acts include such matters as crossing the street to avoid a member of the enemy forces, leaving a restaurant or theatre when one enters, the taunts of children, and other acts of non-co-operation. All are designed to irritate and aggravate the enemy and to develop in him a feeling of uneasiness. By itself, one of these acts is of little consequence; but when multiplied, they become highly effective.

A Source of Information

Partisan forces are a valuable source of information. They can collect both strategic and tactical information. The clandestine forces in the cities can provide information concerning the location of industrial establishments, items produced, rates of production, political information in respect to the local administration, methods used in control, and identity of leaders. Further, they can obtain sociological information, such as population figures, movement of groups, and data on mobilization of labor. These forces can also provide valuable military information concerning disposition, identity, strength, and composition of the enemy's armed forces. Guerrillas are also a useful source of information. Much of the information from them will be military in nature.

In order that the collection effort

of partisan forces be properly exploited, it is necessary to provide continued direction. Representatives or agents must contact these forces to establish communications for the receipt of missions and the transmission of information. There are several means which can be employed to conduct such communication. During World War II, the radio saw the most common method, although couriers, aircraft, and vessels were employed.

Partisan forces can provide guides, hideouts, and contacts which are necessary in the development of escape and evasion routes. Here again, it is important that these activities be closely controlled and co-ordinated with military operations.

The broad objectives of a psychological warfare program are to lower the morale of the enemy and to raise the morale of individuals or groups who oppose the rule of the enemy. The existence of partisan forces assists in accomplishing both of these objectives. Such partisan activities as raids, ambushes, sabotage, and the spreading of false rumors; the publication of leaflets, stickers, and newspapers; radio broadcasts; and acts of passive resistance, help to lower the enemy's morale by creating fear, suspicion, distrust, and frustration. Conversely, the same acts provide encouragement and hope to the civilian population and generally bolster their morale. The more widespread and aggressive these activities become, the more effective are they as psychological implements.

Limitations and Problems

Definite limitations are placed on partisan activities. The guerrilla or paramilitary forces are not organized, trained, or equipped to employ formalized military tactics. Even in their own field of harassing activity, they are not capable of sustained action, due primarily to logistical limitations. Guerrilla forces must operate primarily during hours of darkness. Since they will have no transport, ordinarily, targets must be within reasonable marching distance.

Guerrilla activity is very strenuous, and rest and recuperation time must be allowed to the personnel thus engaged. The physical isolation of guerrilla forces renders more difficult the control of their operations. This is particularly noticeable in the changing attitude of guerrillas following small or local successes.

Guerrilla forces are prone to overestimate their capabilities, and their leaders are likely to entertain delusions of grandeur. They may then undertake action beyond their capabilities. Security is a limitation within itself, when enemy counter-espionage and counter-sabotage units are operating. Partisan forces must work

slowly to preserve secrecy. This requirement increases the complexity of operation and the difficulties of control. Any relaxation of security by these forces will subject them to penetration by enemy counter-intelligence, which will lead to a break-up of the organization.

There are many problems in connection with partisan forces, but from a theatre headquarters viewpoint they may be all placed under the three headings of development, supply, and direction and control.

If the partisan movement develops spontaneously within a country, theatre headquarters must develop plans and the means by which the partisan leaders are brought into contact. This is generally accomplished through radio communication, with facilities and a secure code furnished by theatre headquarters. It may also be accomplished by arranging a meeting of qualified representatives of the theatre commander with the partisan leaders, to work out mutual problems. An example was General Clark's clandestine meeting with the French authorities in North Africa in the early part of World War II. It is also feasible that some of the partisan leaders may be brought to meet with the theatre commander's representatives. Such contact should be established as early as possible in order to facilitate the theatre commander's function of direction.

As early as possible, preferably during time of peace, plans should be made for the rapid development of friendly partisan forces in areas where a need for them may arise. Included in these plans would be the selection and indoctrination of potential leaders, and the actual training of cadres. Such planning would be an intelligence function on the joint level.

Excellent examples of successful planning along these lines are the cases of Marshal Tito in Jugoslavia and Klement Gottwald in Czechoslovakia. These men were thoroughly and painstakingly trained in Moscow and sent into their respective countries fully prepared to bring them under Russian domination at the proper moment during the unstable period immediately following World War II. The overthrow tactics which were used in these two cases are contrary to United States policy, but they are cited to illustrate that the partisan weapon can be all the more effective if its use is planned for well in advance.

If the spirit of resistance has not developed within a country, or if resistance groups have not been formed, then the theatre commander's problem is increased. Rigid control measures adopted by the enemy may have prevented the formation of partisan groups or, as in the case of the Ukrainians in the early part of the war, the people may have swayed

toward the enemy. In such case, propaganda must be aimed at separating the people from the enemy and winning them over to the friendly cause. Leaders will emerge and must be given the proper guidance and support to gain strength. To develop a partisan movement under such conditions will obviously require considerable time and effort.

In dealing with partisan forces, national and foreign policies must be considered. From a military viewpoint, it might be highly advantageous to arm a certain group of partisans. However, by doing so, we might be giving support to their political beliefs and thus offending other partisan groups or allies. The theatre commander is rigidly guided by the Joint Chiefs of Staff in such matters, but there remain many decisions which he must make. Consequently, there are State Department representatives who act as advisers to the theatre commander and his staff on the political aspects of such problems.

Problems of Supply

As far as possible, partisan forces live off the land and attack enemy depots and installations to gain additional weapons, food, and equipment. Under certain conditions, partisan forces will be completely unable to supply themselves locally, and it then becomes a tonnage problem for the theatre commander. A figure of 18 pounds per man per day can be used for planning purposes. The theatre commander must be prepared to allocate these supplies and deliver them to the partisans if he expects to make full use of their capabilities.

In the European Theatre during 1944, the Americans air-dropped a monthly average of over 250 tons of supplies to the FFI. The July 1944 effort alone was over 1,000 tons. British operations in support of French partisans were even larger. Additional supplies were furnished to the Norwegians, Poles, Danes, Belgians, Dutch, Italians, Greeks, and others. Partisan forces will always be able to use more supplies than a theatre is logistically able for willing to provide. Therefore, the supply procedure must be carefully worked out to ensure that priorities are established both as to the various partisan forces to be supplied and the items they are to receive. Arrangements must be made with the partisan forces to enable them to requisition supplies. It is advantageous to have a liaison officer with the partisans to assist them in ordering supplies and in selecting drop sites or landing beaches.

Delivery imposes special problems upon the theatre commander. Although the amount of supply provided a partisan is relatively small, it is difficult to deliver supplies to

him secretly. The most common method of the past war was by air-drop. Other methods included supply by submarine, by specially designed patrol craft, and by pack train through the enemy lines.

Such delicate items as radios and sabotage devices require extremely careful packing. This is best accomplished by providing special packing stations within the theatre. To air-drop the quantity of supplies needed by partisans will require the constant use of a large number of aircraft. The crews must be trained for dropping, particularly night-dropping in mass formation, and the aircraft may require special equipment or modification. The operations of supply aircraft may disclose to the enemy the location of major partisan groups. Consequently, drop zones must be changed frequently, and the flight of supply aircraft must be concealed by every possible means.

Direction and Control

Direction and control of partisans must be delicate, yet firm. Partisans are not members of the military establishment and are not subject to normal disciplinary measures. If they disagree with or dislike the orders they receive, they may disregard them. The leaders are apt to be strong, determined, and highly individualistic. Sometimes, these leaders adopt an attitude that they are fighting their war and nobody is going to tell them how to do it. Normally, co-operation is excellent when proper direction and control are furnished. The staff officers planning and supervising partisan activities must have a thorough picture of the situation and an understanding of local problems. Liaison officers with the partisan forces will aid in settling differences but, as frequently as possible, theatre representatives should confer with the partisan leaders to discuss mutual problems.

During the past war, there were several different methods used in co-ordinating and directing partisan activities. In certain theatres, G-2 supervised partisan intelligence activities and G-3 the operations. In other theatres, special staff sections were created. In one theatre, co-ordination was accomplished through a catch-all general staff section, designated as G-5. The method employed is relatively unimportant, so long as the theatre general staff divisions realize their responsibilities in regard to partisans and prepare the necessary plans and policies. For example, the J-2 may logically be charged with the initial development of the partisan leaders, and should be responsible for the direction of the intelligence effort at all times. However, the requirements for partisan forces and the direction of their overt operations are J-3 responsibilities.

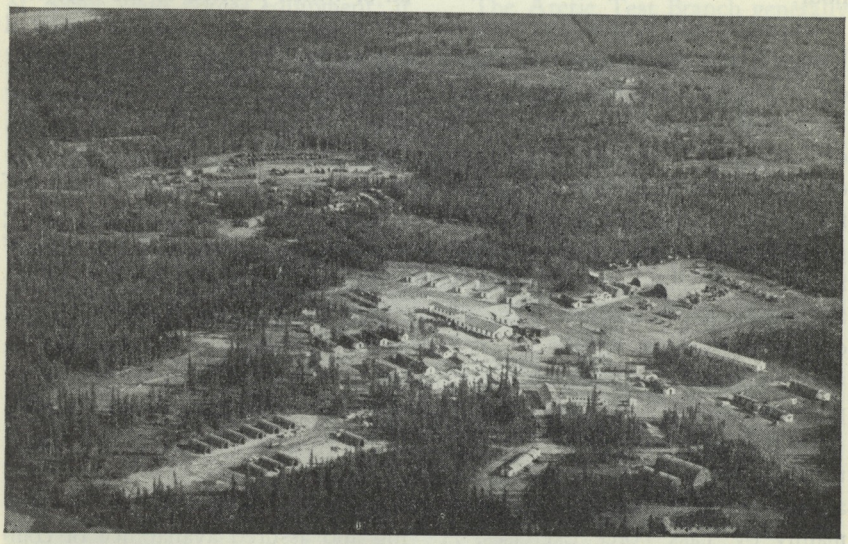
(To be continued)

ARCTIC TEST BRANCH

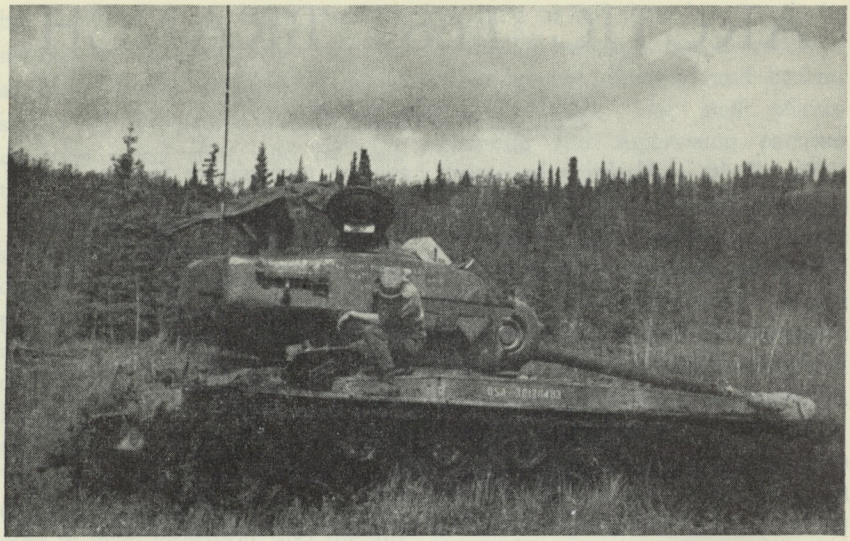
By
MAJOR C. H. E. ASKWITH,
CANADIAN ARMY LIAISON OFFICER

Big Delta, Alaska, the most northerly United States Army post, is the home of the Arctic Test Branch, United States Army Field Forces. It is situated in the Tanana River Valley approximately 105 miles southeast of Fairbanks near the junction of the Alcan and Richardson Highways.

Within the military reservation covering almost 15,000 acres may be found all types of terrain typical of the arctic and subarctic. Climatological data obtained over the past seven years indicates a monthly average temperature from a low of 3 degrees to a high of 59 degrees Fahrenheit. During this period temperatures have ranged from a low of minus 63 degrees in January to a high of 90 degrees Fahrenheit in May. The prevailing wind direction is from the east, except during the period May to August when it shifts to the southwest. Wind speeds, excluding gusts, have reached 85 miles per hour; however, as a general rule, when the temperature is minus 30 degrees Fahrenheit winds seldom exceed 20 miles per



A bird's-eye view of the Arctic Test Branch.



Summer mobility testing of a medium tank.

hour.

During World War II user tests of United States Army equipment were conducted by some ten boards, each being concerned with a particular arm or service. After the war these establishments were reorganized into four Army Field Forces Boards. Together they are assigned responsibility for service test, and recommendations for adoption, procurement and issue of all military equipment in which units assigned to a field army have primary interest.

Prior to the winter of 1949/50 user tests under winter arctic and subarctic conditions were conducted mainly by Task Force Exercises. A great deal of information was obtained all of which pointed to the necessity for improving all types of materiel contemplated for use in cold climates. Desirable and necessary as the Exercises were and will continue to be, there are certain inherent limitations in this method in so far as testing of equipment is concerned: the testing period is restricted to the length of the Exercise and the existing weather conditions, whether adequate or not, must be accepted. It also became evident that there were arctic summer problems that required solution—problems in some respects as great or greater than those of winter. Also, there was indicated a need for training and assured availability of competent testing personnel.

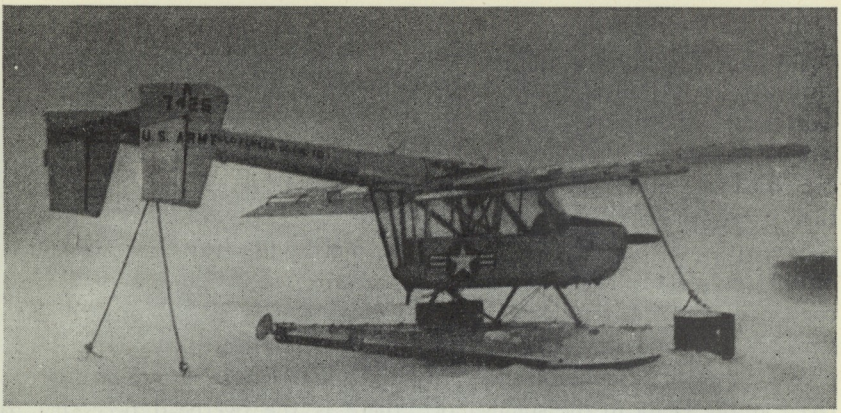
In order that testing and research might be placed on a year-round basis with assured continuity, the Arctic Test Branch of the Army Field Forces was activated. The Branch was to be composed of personnel from each of the four Army Field Forces Boards in the continental United States, in order to extend to the arctic the tests conducted in the temperate zone. Personnel were assembled at their parent Boards and subsequently arrived at Big Delta in the summer of 1949.

The mission of the Arctic Test Branch is much the same as that of its four parent Boards, except that its scope is limited to that of the arctic and subarctic. It conducts user tests of Army Field Forces equipment; it recommends military characteristics for special arctic equipment and the adaptation of standard equipment for use in the arctic; it develops data on the effects of arctic and subarctic environment on personnel and equipment.

In order to perform its mission the Branch is organized into four Test Groups numbered to correspond to the parent Board each serves. In addition to these four Test Groups there is the overhead necessary to produce a unit which is self-contained except for normal base level support. An Air Weather Section manned by Air Force personnel is permanently attached to assist in furnishing and compiling weather data.

The Arctic Test Branch generally

A freeze-up season test with a heavy calibre howitzer.



A winter season test with a light aircraft.

tests equipment that is being or has been given a temperate zone test by the appropriate parent Board in the United States. The exception, of course, is when the item has been designed solely for arctic use and it is obvious that testing by the Board is superfluous. However, the responsibility for selecting projects, assigning priorities, detailing the method and conditions under which the test is to be made rests with the parent Board. Thus the work load of the Arctic Test Branch is determined by four different agencies, co-ordination being effected through Office of the Chief of the Army Field Forces.

For purposes of clarity and ease of reference the test year is divided into four seasons—winter, break-up, summer and freeze-up. These seasons cover the periods: November to March, April to mid-June, mid-June to August, and September to October, respectively. In most cases the project itself indicates whether a year-round test is desirable. For example, a mosquito net would not be tested during the winter, nor a hand warmer in summer. However, projects involving vehicle mobility or stability firing require testing during all four seasons.

Upon completion of a project a report is prepared and forwarded to the parent Board. There it is reviewed, evaluated and co-ordinated with other interested agencies. As the report covers only the arctic phase it is normally processed as an annex to a current project or as a supplement to a project which the Board has already completed.

Since its inception approximately

INCONCLUSIVE ACTION AT BYTOWN

In April, 1849, the Parliament Buildings in Montreal had been fired by a mob of angry Conservatives. In September, Lord Elgin proposed to visit Upper Canada with the purpose, among other things, of selecting a site for another capital. According to an account by Lucien Brault in *Ottawa Old & New* a public meeting called in Bytown (Ottawa) to consider an appropriate welcome for Lord Elgin broke up in the rattle of gunfire as the Reformers and the still angry Conservatives entrenched themselves in stone-walled buildings and blazed away at each other with private arms obtained from stores in the neighbourhood of Rideau and Sussex Streets. This exuberance was checked by the arrival of a company of British Regulars after one had been killed and thirty wounded. Both sides retired to gather strength for a meeting called two days thence.

The Reformers collected supporters from the Gatineau Valley and advanced through Lower Town, about a thousand strong, armed with three cannon and a number of small arms, obtained from an armoury in Aylmer. The Conservatives, in number about one thousand seven hundred, also well armed, approached through Upper Town. At Sappers' Bridge, (just east of the present War Memorial) stood a detachment of the Royal Canadian Rifle Regiment, a regiment of the Regular Army localized in Canada, with four cannon deployed on Barracks (Parliament) Hill and two on the bridge. Each war-like party was turned back and retired. Some of the Reformers fired into the air before leaving. "Hearing the firing, the Tories thought that the fray had begun and returned with all haste to the bridge, to face again the military squad."—*Capt. C. C. J. Bond, Historical Section, Army Headquarters, Ottawa.*

ARCTIC TEST BRANCH

(Continued from preceding page)

115 projects have been assigned to the Arctic Test Branch, 80 of which are current. These 80 are a multiplicity of unlikeness, ranging in size from a glove to a heavy calibre gun, in weight from a drop of oil to a tank, and in transport from a boat to an airplane.

The Arctic Test Branch constitutes a new and vital link in the over-all development programme and the value of this on-the-spot year round testing will be reflected in future equipment designed to meet specific arctic and subarctic requirements.

MILITARY RIFLE SHOOTING

By
Captain R. W. Hampton, Directorate of Military Training,
Army Headquarters, Ottawa*

This is the first in a series of two articles on the subject of Recreational Shooting. Part I deals entirely with Recreational Shooting in the form of Indoor Rifle Practices and Competitions. Part 2 will deal with those aspects of Recreational Shooting which relate to Service Rifle Shooting, and the wider scope of Competition on Provincial, Dominion and Empire levels. For the purpose of definition, Recreational Shooting is considered to be any type of Small Arms Shooting other than that conducted as Basic Small Arms (Rifle) Training and Annual Range Courses.—Author.

Recreational Shooting

A young Canadian Army Cadet had just won a place on the "All Star Team" of Commonwealth riflemen. He had reached the "top" in Recreational Shooting, and to celebrate the occasion, he stood on his head on the 600-yard firing point of the famed Century Rifle Range at Bisley, England. His action startled several of the more stolid members of the rifle shooting fraternity and was briefly reported in the Canadian Press.

The event was the conclusion of the shooting in the Second Stage of the competition for His Majesty the King's Prize at Bisley in July 1950. Cadet C. James of the Hamilton Collegiate Institute Cadet Corps had just won his place in the Final Stage of the Empire Classic rifle shooting event, and was qualified to shoot for the King's Prize over the difficult 900 and 1000-yard Stickledown Range the following day. He had shot his way into the "King's Hundred", that elite group of one hundred of the Commonwealth's best riflemen who each year compete for the historic Prize. Although this group is never referred to as an "All Star Team" it most certainly deserves the appellation since the preliminaries compare favourably with the selection of such "teams" in hockey, baseball, golf and other games. In degree, these preliminaries were in fact more rigorous, because

The author has won a place on the Canadian Bisley Team on four occasions. He has served as a member of the Councils, Executive Committees and Match Committees of the Province of Ontario and the Dominion of Canada Rifle Associations since 1947. He has been president of the National Defence Rifle Association since 1946.—Editor.

the original field comprised approximately 1,400 competitors.

The factor that was not reported in the Press, the Recreational aspects of *Training*, is almost always overlooked, even by those who have engaged in the sport for many years. Rifle shooting of this nature is a sport, and if the publicity which it gains is less than that accorded to some other sports, it can be mainly attributed to the lack of spectator appeal which accompanies it. This is obviously true of most individualistic sports which depend on great space for their stage, such as golf. The most important derivative of rifle shooting is the degree of efficiency in marksmanship gained through the sport, and while not extensively publicized, its value is nevertheless recognized and appreciated. In the case of the individual previously referred to, a well-known Reserve Force Regiment now has a new recruit whose value as a Musketry Instructor and coach in future years will be immeasurable.

Rifle shooting, like all other aspects of Military Training, relies greatly on "repetition" as the chief factor in producing a high degree of efficiency. It is in this respect that Recreational Shooting provides the required amount of repetition to attain a high degree of marksmanship efficiency. The purpose of this article is to point up the value of this type of shooting, together with its various stages of training and competitive interests.

First Step—Initial Training

The first and most necessary step in the training of marksmanship is taken during the initial stages of Small Arms Training. Whether this phase is conducted during Cadet Training, Recruit Training in any of the Services, or through discussions with "the old coaches" of a local Rifle Association, its importance cannot be overlooked. It is at this stage that habits are formed, and whether these are good or bad depends on the quality of instruction imparted, and the enthusiasm of its reception by the individual. Recreational Shooting can therefore be both contributory and supplementary to this phase of training. As a contributory feature, the Military Rifle Association can be referred to as the chief source, for it is within the ranks of their membership that the retired Serviceman with a vast experience in competition rifle shooting is more often found. These are the "old coaches" previously referred to, and although their place in the ranks may have been filled by younger men, their enthusiasm for the sport remains, to the advantage of the Unit or Rifle Association which chooses to accept their voluntary contribution towards this training. It is as a supplement to basic training that

Recreational Shooting makes its greatest contribution, and it was with this purpose in mind that the Canadian Army Recreational Shooting Programme was evolved.

However complementary either Basic Small Arms Training or Recreational Shooting may be to each other, let us not forget that the lessons in "holding", "aiming", "sighting", "trigger pressing", "safety precautions", "care of arms", "range discipline" and a host of others will be called upon at a later stage, and the degree to which these lessons have been absorbed by the individual will indicate a measure of the success which he may hope to achieve in future events.

Second Step — Local Competition

Having satisfactorily completed basic small arms training or its equivalent, the next step is to introduce the sporting aspects of rifle shooting. This is best provided for in the Unit or Rifle Association through the Canadian Army Recreational Shooting Programme.* The competitive instinct is common to practically everyone and can readily be encouraged, although some thought should be given to the propitiousness and method of progressing to this stage. There are many psychological hurdles to surmount in rifle shooting, one of which is the effect of early failure on the newcomer. It may readily be argued that a man who has done well in his basic training should be capable of producing a high score on his first venture in competitive shooting, and that this should be accomplished by providing him with a target of large proportions. On the contrary, this action is simply a concealment of the true facts. Every individual should be early apprised of the following details:—

1. His classification of First Class, Marksman, or Sniper, does not indicate that this is the peak of perfection which it is desired he should attain.

2. A much higher standard has been set by others which he should strive to emulate.

3. His weapons and ammunition are good, and capable of a very high degree of accuracy.

4. Any normal individual possessing the will to succeed in this sport can equal the efficiency of his weapons and ammunition, providing he is not otherwise physically handicapped.

Before progressing to competitive shooting, the individual should be made aware of the above facts, and the yardstick of "grouping" ability applied to his existing standard. It is not considered advisable to introduce the Recreational Shooting Programme to anyone before they have reached the stage of being able

*See letter HQ 34-4-2 Vol. 2 dated 24 July 1950.—Author.

to group consistantly within a circle of 3-inch diameter at 25 yards, using the C No 7 Mk 1 Calibre. 22 inch Rifle, as issued. Until he is capable of so doing, the individual should be required to continue his grouping practice, preferably on a target which has no scoring rings other than the aiming mark.

The methods of introducing competitive shooting are varied. The Programme previously referred to may be described as a basic plan for the conduct of such practices. However, it is sufficiently flexible to cater to the immediate requirements of any Unit or Association. How it may be best utilized is a matter for the individual organizers of this training to decide, and relies greatly on their planning foresight and imagination.

Local team competition in conjunction with the individual aspects of the Recreational Programme will assist in levelling out the difference in individual efficiency. The standard sub-unit breakdown of the parent Unit is a ready-made institution of the "team" aspect. In Units whose small numbers preclude this division and particularly in Rifle Associations where no immediate groupment is apparent, it may be necessary to "classify" each competitor into an appropriate group within which they may compete against others of equal or comparative skill. Whatever the methods devised, they should strive to foster the team spirit, through the medium of raising the individual efficiency rating.

The standard to be achieved in this phase of training is the degree of efficiency considered necessary to compete favourably with those other Units or Associations in the immediate locality. It is not suggested that by competing "favourably" a team should win. A succession of early conquests is liable to lead to keen discouragement at a later date when the rival team gets down to serious practice to overcome those defeats. Consequently, to lose an event, whether individual or on a team basis, is considered to be good training, particularly with respect to good sportsmanship training and as a means of finding out just how to rate the state of training.

One good method of building up the individual efficiency without expending too much effort on administration and statistical returns is the use of a "Challenge Ladder". The names of each member of the Section, Platoon, Unit or Association are printed on separate cards which fit into slots on a notice board or other prominent place, forming a perpendicular list. Any man can challenge the individual whose name appears immediately above his own on this list. Should the challenger win his individual match, his name

card replaces that of his competitor on the "ladder". In this way, over a period of time, the individual marksmanship rating within the Unit, etc., will be reflected in the order of precedence in which the cards appear on the Challenge Ladder.

With regard to team competition on this level, a note of warning may be in order. If team spirit is to be maintained throughout the Unit, competition should be arranged in such a manner as to allow the greatest number of individuals to take part. Once the desire to win overcomes the natural sportsmanship of competition, the tendency is towards smaller teams comprising the best individuals. Those who are left out of the competition in this manner are apt to form conclusions that their efforts are worthless so long as a strong nucleus of "experts" exist, and who will always be called upon to represent their Unit or Association against outside competition. The result will be a decline in the interest and attendance of personnel at these shooting events.

Third Step — Open Competition

It has been briefly mentioned in a previous paragraph, that outside competition will serve as a means of rating the state of training or marksmanship efficiency. There are several contests in Canada which lend themselves to this medium. The important aspect of these are, that they are conducted by active organizations which have been subsidized by the Department to assist in carrying out these activities. Therefore, since the organization of the competitions has been effected, there is really no increase in the administrative details to be considered other than to register and take part in the competitions.

The organizations referred to are the Provincial and Dominion Rifle Associations. Most of these, and certainly the latter, conduct a regular schedule of Indoor Rifle Competitions during the Winter months as a means of preliminary training for their Annual Prize Meetings conducted with the Service Rifle. There is no better way to compare the ability of one Unit with that of other Units or Rifle Associations, than by taking part in these competitions. Any of these organizations will welcome requests for information concerning their activities, and in the event that no such competition is presently conducted, it may be on account of previous lack of interest on the part of Units, etc., in that locality. The Dominion of Canada Rifle Association have always conducted such competitions and these are open to teams from any Unit or Rifle Association in Canada. The monetary reward which may be gained through competing in these events may be of

some assistance in furthering the activities of the local group.

This type of competition is referred to as "Postal Matches". They provide a medium for keen competition, even though they lack the personal interest of competitions where the competitors are able to see the results as they occur, and commiserate on their misfortune or otherwise. This type of shooting also contains something of intrensic value — the encouragement of personal honesty in shooting. Honourable intentions are the main requirement in such matches, since the competition may be undertaken by two or more Units widely separated geographically. It is sometimes usual to designate a neutral umpire or Range Officer to oversee the competition but in many instances the conditions of shooting are taken for granted as having been lived up to, and the exchange of targets or a list of scores passed by postal channels is all that takes place.

Conclusion

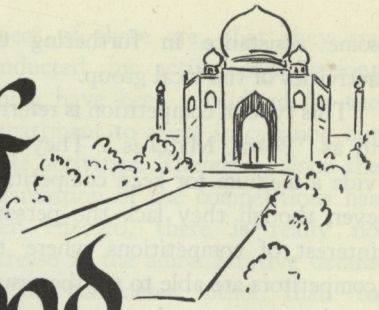
In the foregoing paragraphs we have covered some of the steps which may be taken in the conduct of Recreational Shooting practices. It is possible that the value of such training may be overlooked, since it has been limited to Smallbore Rifle Shooting of an indoor nature. There is no "trick" to being able to shoot accurately. The requirements of a marksman are basic, as they are to any other sport. However, training is just as important to this sport as it is to any other. We sometimes hear comments about individuals who are "natural" rifle shots. I prefer to think of these individuals as people who are capable of adjusting themselves to the sport more readily than others. The matter of "adjustment" to rifle shooting can be compared to the "stance" and "swing" employed in golf. The adaptation of muscles to rifle shooting is similarly important. It is described as "*Position*" and as such it is the first basic principle of rifle shooting to be perfected. Its importance is so great that a "poor" position can directly affect all of the five remaining principles of *Holding, Breathing, Aiming, Trigger Control* and *Co-ordination.*

If the reader is a member of the Services he has the physical requirements of a good marksman. The material requirements, pre-requisite to producing a good marksman, are provided (free) by the Unit. Practice in the basic principles of *Position, Holding, Breathing, Aiming, Trigger Control, and Co-ordination* is the only essential which you are required to supply.

How efficient are you as a marksman?

(To be continued)

A Tale of Tuglakabad



LIEUT.-COLONEL B. V. RAMSDEN IN THE ARMY QUARTERLY (GREAT BRITAIN)*

The strained situation between Eastland and Westland responsible for their respective hosts snarling defiance at one another across the low rock-strewn ridges west of New Delhi, on a winter afternoon a quarter of a century ago, boiled down to the simple fact that one wanted to capture New Delhi and the other to prevent them. With New Delhi as it was then, comment is superfluous.

Indian Army HQ's private reasons for precipitating a conflict were:

(a) To test the adaptability of the Indian Supply and Transport system, operated mainly by country carts, country bullocks and country drivers, along country roads, to the tempo of a modern campaign.

Again no comments.

(b) To test the reaction of the four armoured cars, rumoured to have been recently purchased at an auction of old Army stores, to the presence of the infantry, and the converse.

Behind this façade there lurked the old fallacy that Army manœuvres are good for the troops.

The galaxy of spectators of this exhibition of India's military prowess included the Amir of Afghanistan, known to be interested in armoured cars, and irreverent circles had it that if their test was successful, Army HQ hoped to dispose of all four at a handsome enough profit to warrant the purchase of a couple of 1916 tanks.

Thus were the dice loaded against the "PBI".

But for the armoured cars on the attacking side, the opposing forces were evenly matched at approximately two infantry brigades apiece, with what was then considered dignified artillery support. Army HQ had

**The Quarterly published this article under the title "'Standfast'—A Tale of Tuglakabad." —Editor.*

been fortunate enough to secure the services of two cavalry regiments who had been unexpectedly eliminated from a polo tournament, but as this was to be essentially an armoured car and infantry affair, the cavalry were not called upon to take any important part, beyond some spectacular skirmishing on the flanks, though their kindness in providing mounts and orderlies for the spectators was much appreciated.

The only two aeroplanes available operated impartially and in turn on either side as required, but we were not sufficiently air-minded in those days to regard them as anything but unmitigated nuisances.

The area of operations was the low plateau west of New Delhi, barren and boulder-strewn, and seamed with a profusion of deep sandy ravines with almost vertical sides. As a war area it had the great advantage of inflicting the minimum domestic inconvenience on the personnel of Army HQ and their families, who wintered in New Delhi.

The battle was scheduled to last three days and nights and, but for the intervention of a senior umpire, might well have done so.

When the flag fell after lunch on X-Day, the Bareilly Brigade of defenders—1st Welch, 3rd Gurkhas and 2nd and 3rd Garhwalis — were tucked away among the rocks and scrub near Gurgaon, safe from the prying eyes of the plane on duty, which had, as usual, beaten the pistol.

After the GOC's initial "Order" ceremony, an amiable junior umpire slipped a small sketch to the Brigade Major, with a tip straight from the horse's mouth that the advance of the Brigade was to be held up at Gap "A" in the ridge ahead, but that Gap "B" on the right front was unoccupied.

Events proved that it was either the wrong horse or a lying horse; it was certainly the wrong gap.

The Brigade Staff, accompanied by the Director of Staff Duties (DSD) as a somewhat unwelcome spectator, returned to their HQ under a tree to commence the time-honoured ceremony of Operation Orders, a ritual of vital importance both in written or verbal form, and in the conduct and marshalling of those subordinates who were privileged to attend.

In those days a staff officer's

"... that Gap B on the right front was unoccupied."

career depended almost more on his capacity to concoct a formal order in strict compliance with regulations than on any other quality, and, but for the subsequent appearance of such uneducated parvenus as Rommel, the fine old ceremony might even have survived to this day.

The ceremony was rudely interrupted by the appearance of a large boar galloping straight at Brigade HQ pursued by three mounted officers of the Welch Regiment, oblivious or contemptuous of the opening of hostilities. This was too much for our Gurkha Battalion, and what had seemed a few minutes before to be a lifeless jumble of rock and scrub, suddenly erupted into violent animation, during which the poor pig died a gallant but messy death from *kukris* and pick-helves.

Our DSD spectator evidently regarded this more as a bit of good clean pantomime than as a military misdemeanour, for it did not figure in the distressing list of our debits at the C-in-C's post-mortem after manœuvres.

An hour later, with the Operation Orders complete, our audience took their leave after each CO in order of seniority had pledged himself to his role. We did not insist on them bowing out backwards. Some twelve copies were then laboriously du-

". . . the poor pig died a gallant but messy death."

plicated and dispatched to various completely disinterested people, many of whom basely retained the orderlies for their own private use.

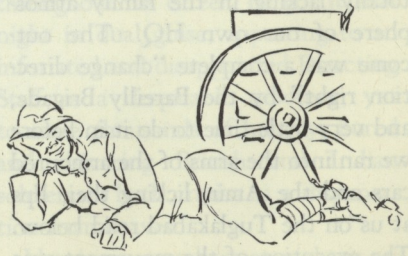
The advance began on a two-battalion front, with Brigade HQ and its Mess cart somewhere in the middle. Somewhere else in the happy throng was a battery of mountain artillery, 2.75 mm. guns on pack mules, with a livery major suffering from an acute neglection complex. Overhead the aeroplane on duty, friendly or hostile, periodically sounded a klaxon or waved a flag in a quite fruitless appeal to be taken seriously.

As the advanced guard cautiously approached Gap "A" straight ahead, it came under heavy and unexpected fire from Gap "B" on the right, which that lying horse had tipped as unoccupied. A battalion of Garhwalis and a section of guns were detailed to deal with the nuisance, but were pinned down, and remained very suspiciously pinned down till the end of manœuvres. Their CO was a man of much experience, who may have had some premonition of what lay ahead of the rest of the Brigade, now marching blithely along through Gap "A". Having negotiated a particularly deep and insanitary ravine just before dusk, it was decided to call it a day and settle down for the night, after a brief session for outpost orders.

It had been a comparatively uneventful day but for the pig, and a dastardly attack by two enemy armoured cars who had anticipated hostilities by several hours and smashed into our right flank during the tea interval under some trees on a country track, quite regardless of two guns firing at them at point blank range, though without any blank of course.

Despite several assurances from Divisional HQ that our rations would be with us at any moment, it was nearly midnight before the first two mules carrying bread took simultaneous headers into our ravine, shook themselves and galloped back home before we could catch them. We got the remainder at daylight, not our own but the enemy's, a pardonable error when the supply columns of both armies are rumbling along amicably side by side on the same road.

But war or not, soldiers must be fed, so it was decided to postpone any further advance till after break-



". . . suspiciously pinned down till the end of manœuvres."

fast. This was interrupted by an unwarrantably rude inquiry from the GOC as to our delay, and an invitation to the Brigadier to report to him at once at his HQ, several miles back, for a "rocket". There was nothing for it but to leave breakfast untasted and continue on our way, with that fine old sub-para of Operation Orders, dealing with the position, health and domestic affairs of neighbouring units, still incomplete. We hadn't even started to think of the "intention" paragraph.

One CO, embittered by having failed for the Staff College despite his DSO and MC, caustically remarked that we might get better results with our Operation Orders if we started at "Acknowledge" and worked backwards, thereby ensuring a closer relationship between the "intention" and the methods employed.

After according the Brigadier a markedly cool reception, the GOC indulged in an Order Ceremony of his own, by no means brief and totally lacking in the family atmosphere of our own HQ. The outcome was a complete "change direction right" by the Bareilly Brigade, and very little time to do it in before we ran into the arms of the armoured cars and the Amir, licking their lips at us on the Tuglakabad road below. The execution of the movement was further delayed by both the Brigadier and Brigade Major's horses suffering from the hazards of the course on their return journey, and would have been fatally complicated but for the fact that the Brigade possessed a second sense and had done it on their own.

This speaks adequately for those four splendid Frontier-tried regiments, and in retrospect it is questionable whether they really needed any Brigade Staff at all! But in the general flap we quite forgot the Brigade transport, which rumbled imperturbably on in the original direction into the enemy's lines and was put out of action for the day. Seeing that the Bareilly Brigade was not to be tempted down from the hills to make sport for the armoured cars and spectators, the Directing Staff ordered it to damn well come down and attack Tuglakabad at dusk. The idea, of course, was for the armoured cars to catch the attack in flank as soon as it reached the road, but this was thwarted by the discovery that petrol consumption had been greatly under-estimated, and that no more was available till the appropriate indent forms, in triplicate and signed by the CO, had been duly approved by a babu clerk in New Delhi. This was considered an essential formality in those days, and it was neglect of such procedure that probably cost Rommel so dear in the Western Desert. It took another World War

to bring "Logistics" to India.

Tuglakabad had been built several centuries before by a Mogul emperor as a pleasure resort for his empress, but had never made good, finally developing into a snake-infested tangle of scrub and fallen masonry, and a target for the Royal Artillery. On that night it was garrisoned by our enemy's Devonshires, against whom we hurled the whole Brigade (less that portion still snoring peacefully in front of Gap "B"), supported by a shattering five-minute concentration from our two remaining mountain guns who had saved up five rounds of blank each for the occasion, though they may have borrowed one or two more from their opposite numbers on the other side.

The attack was timed originally for dusk, but it was pitch dark before it actually started, owing to difficulties in finding an adequate quorum for Operation Orders in the growing darkness. The gunner major's objection on technical grounds, to shooting at a target in pitch darkness which he had never seen in daylight, was overruled, but after that he co-operated most ably, and also lied most manfully on this point on our behalf under unpleasant criticism by brother experts at the final post-mortem.

The attack succeeded only partially, yet sufficiently to introduce the hero—or villain—of this story, Major "Standfast", senior umpire with the Bareilly Brigade, and probably the only one available on the spot, as we were a bit shy on umpiring in these days, the art being yet in its infancy. One umpire on a Brigade front—at night—in Tuglakabad!

The chain of subsequent events hangs on him, and most particularly on an unfortunate sentence in manœuvre regulations for the occasion, to the effect that "The sounding of the 'Stand fast' call will indicate the end of manœuvres"—not the "Cease fire" but the "Stand fast", a call normally used to effect a temporary lull in the proceedings in order to reintroduce a measure of tone into a vulgar brawl. It is possible that our major had not adequately underlined this unusual order before he set forth in pitch darkness into Tuglakabad, but to insinuate that he could have been swayed by any unworthy motive does scant justice to a most upright and earnest officer. A man who had shunned limelight throughout his career, he got it that night in dual guise, appearing to an infuriated and disappointed Directing Staff as a despicable saboteur, yet to some thousands of hungry, bored and shivering British and Indian soldiers in both armies as a dispensation from heaven.

Umpiring anywhere at night is an unenviable task, in Tuglakabad at

night it is impossible.

When "Standfast" arrived on the scene battle had already been joined, and the tempers of the combatants were obviously fraying. A Welch sergeant had just shouted to the enemy garrison of a small ruined tower, that if they didn't surrender they'd be damn well thrown out, and it is even alleged that Gurkha and Garhwali fingers were feeling for *kukri* handles. Things were getting out of hand, and if they did, "Standfast", the man on the spot, would carry the baby for the consequences.

To restore the situation and give him time to sort things out, he ordered his attendant bugler to sound the "Stand fast", the call normally used on such occasions. Then the fun started.

Eagerly awaiting the success signal for the attack on the windswept ridge above, Brigade HQ heard the unbelievable notes, marking the end of manœuvres some thirty hours before schedule. Maybe they should have guessed what had happened,

". . . fell flat on his face over a stone."

but theirs was to obey, not to guess. However, the matter was taken out of their hands immediately by the call flashing across the battlefield as though every bugler had his instrument ready at his lips.

To a General on the Directing Staff at Brigade HQ the call was evidently most unwelcome, for with an ejaculation of extreme displeasure or words to that effect, and a curt warning to have all available buglers ready to sound the "Continue" in half an hour's time, he turned, fell flat on his face over a stone, then plunged off into the night to sort out the situation in Tuglakabad and, of course, Major "Standfast" as well. Forty minutes later he returned scratched, bruised and breathless and in a shocking temper, and ordered the "Continue" to be sounded by all available buglers.

But in that time casualties amongst our buglers had been a hundred per cent., less one diminutive Welchman whom we were literally sitting on for the occasion, who piped out, " 'Ow can I sound the b——— 'Continue' when there's a b——— standin' on me bugle?"

The General removed a large foot, and after a few trial notes an unrecognizable bray broke forth. Before we could get him to repeat it, the little bugler had slipped away into the night. Locating unwilling buglers, especially Welch ones, amongst those

rocks in pitch darkness was as bad as umpiring in Tuglakabad, and whenever one was caught he'd always mislaid his bugle.

Lights began to show, fires lit and Sergeant-majors were bellowing to fall in. An outbreak of cheering was hastily suppressed. Somewhere close at hand a hungry Welchman gave us "Yes, we have no bananas" on a mouth-organ, in fact it soon became obvious to a completely apoplectic Directing Staff that it was impossible to restore the situation to anything better than a nocturnal Rugby match between two rival lunatic asylums.

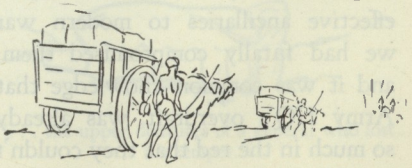
There was nothing for it but to sound the "Cease fire" and "Dismiss", about which there could be no misunderstanding. For this, dead and lost buglers sprang up from behind every rock and bush to speed the glad tidings.

A little later Major "Standfast" reported to Brigade HQ slightly dejected and disillusioned after a preliminary skirmish with several angry generals, but we had something left in the bottle and the mood soon passed. By now we had fasted for nearly twenty-four hours, yet it was nearly daylight before our resourceful Staff Captain appeared with the rations, less the rum issue, with which he had bought release from the enemy. All trace had now been lost of the Divisional Transport last heard creaking, groaning and bellowing on its inexorable way out of the war area towards Central India.

The day after return to Standing Camp at New Delhi, Major "Standfast" was summoned for an interview with the "Great Ones", from which he returned somewhat chastened but bravely carrying the stigma of hasty and ill-considered action in sounding the fateful call. Then to the C-in-C's final post-mortem on the Campaign, at which, amongst other disparagements, he delivered himself of the time-honoured cliché about the troops deserving better staffs.

With such troops as that Bareilly Brigade this was hardly a slur, still it would have been more gracious to drop the matter there instead of letting it seep into our confidential reports a few months later. But for certain subsequent events, the responsibility for which did not lie with the Brigade Staff, this might not have happened.

It was a gloomy party that sat down to supper at Brigade HQ that night, after which the Brigadier treated us to a depressing review of the situation as far as Brigade



". . . bellowing on its inexorable way . . . towards Central India."

HQ were concerned. Generally speaking we had created a thoroughly unfavourable impression on the "Great Ones" from the moment when the pig had arrived on the scene. Our Operation Orders had been too laborious, and seldom complete, and there was the undeniable fact that, the less complete they were the better results had been. We had failed to feed our men and had mislaid our transport, to say nothing of the whole battalion and half our artillery who had been left peacefully pinned at Gap "B" and were not available for the decisive attack on Tuglakabad, thus contravening one of the cardinal principles of war, all about maximum force at the decisive time and place.

The Brigadier was p.s.c. of course. We were not! (It is true that we had failed to keep touch with them through the normal signal channels, but subsequent private inquiries elicited the fact that they had been located by the Brigade Major's bearer, sent off as a forlorn hope and retained by them as a potential spy.)

So far from enhancing the value of the Indian bile, its driver and cart as effective ancillaries to modern war we had fatally compromised them, and it was common knowledge that Army HQ's overdraft was already so much in the red that they couldn't possibly afford any more motor transport.

We might have justified our existence if we had offered ourselves to make sport for the armoured cars and the Amir, but as it was we had deprived Army HQ of the chance of showing their paces, and now the Amir had decided to buy a tricycle instead.

Certain officers of a British regiment had evidently mistaken Army manœuvres for the Kadir Cup meeting. Despite strict orders to the contrary, the haversack of at least one Gurkha rifleman had quite inadequately concealed the half-plucked corpse of a pea-fowl when that regiment marched past the GOC into camp. Criticism would not be lacking on the suspicious dearth of buglers to sound the "Continue" at Tuglakabad and on their abundance to sound the "Cease fire" and "Dismiss". The distressingly premature end to manœuvres might seriously compromise the careers of certain distinguished officers at Army HQ to say nothing of the Brigade Staff.

In all a thoroughly depressing review of our misdemeanours, ending in a prophecy that we'd hear more about it before long. We did, almost at once, the "Stand fast" call, followed by unmistakable sounds of revelry from the Garhwalis' Mess tent. The Brigade Major, sent out to reconnoitre what "those mad devils" were up to, returned in due course with

the disturbing news that some sort of Brigade guest night was in progress there, with Major "Standfast" as the guest of honour.

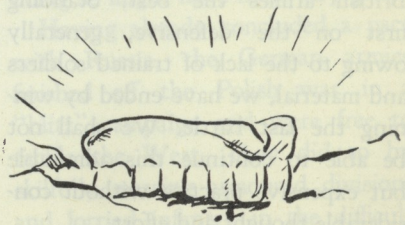
After voicing the admiration and gratitude of all ranks for his distinguished services to humanity at Tuglakabad, the Garhwali Colonel had presented "Standfast" with an enormous tin bugle as a memento, which he had acknowledged in a gracious speech, concluding with the announcement that he was cancelling all future umpiring engagements and devoting himself to less exacting forms of soldiering. He did not anticipate that the decision would meet with serious opposition from higher levels. Prolonged cheers had greeted his speech, and then came the "Stand fast" call sounded this time by what had seemed the massed buglers of the Brigade, all this within a few hundred yards of Divisional HQ and its umbraged commander who had so signally failed to appreciate our services in the campaign.

Realizing the possibilities of the situation, the Brigade Major faded out while the fading was still good, after witnessing the stirring spectacle of a portly Welch major being led round the Mess table by a Gurkha subaltern in an excellent impersonation of the Regiment's mascot goat.

This time no fault could have been found with the promptness and brevity of orders for Brigade HQ Staff: "Lights out—bed and sleep" —our only alibi in case awkward questions were asked. For some reason they were not, but from certain catty remarks in our confidential reports a few months later it was clear that the matter had not passed unnoticed.

Many of the cast of the Tuglakabad pantomime have passed beyond the reach of bugle calls, but it is a curious fact that so many of the junior officers concerned rose to high distinction in the last war. Few of them however will attribute their success to any positive lessons they learnt during the performance.

The ruins of Tuglakabad still stand, with the ghosts and snakes and scorpions still chuckling about the events of that hectic night, and, incidentally, somewhere in one of the many ruined wells there should be the upper dentures of a general who lost his temper.



". . . the upper dentures of a general who lost his temper."

Some Ideas on Defence

Major-General B. T. Wilson, CB, DSO, late RE,
in The Army Quarterly (Great Britain)

"Every new war will start with weapons and tactics far in advance of those of the war before."
von Seeckt

"Il est certain qui attendra passivement les coups de son adversaire finira par succomber."
Jomini

A distinguished French soldier of the last century once remarked that the British were not apt in the attack but were the most difficult troops to defeat in Europe. If this aphorism is true, it probably provides an explanation of the fact that the "defensive-offensive" has long been the form of war which has suited British armies the best. Standing first on the defensive, generally owing to the lack of trained soldiers and material, we have ended by winning the last battle. We shall not be able to continue this admirable but expensive practice without considerable thought and effort.

An attempt will therefore be made in this short article to review some experiences of the defence in recent wars and to suggest how best to fight a defensive campaign at the present day.

There are certain prerequisites for successful defence.

No defence can now be successful which does not dispose of reasonable air cover and a sufficiency of well-trained, well-equipped troops working from a secure base of operations.

Reasonable air cover can be defined as the power to operate sufficient aircraft of all kinds to provide local air superiority when required. Local air superiority includes the power to reconnoitre and to bomb enemy communications for a particular purpose—e.g. to cover the base or to support a counter-attack. Formations actively engaged with the enemy

should be able to call on bomber support and should be trained to do so. A defending army will be hard put to it if it has to fight at a numerical disadvantage of 1 to 3 or worse. The greater the numerical disadvantage the higher the quality and the mobility of the defender must be. To some extent the lack of troops can be compensated for by a relative superiority in air power, equipment, intelligence, training and mobility, but an enemy of big battalions and large reserves will be in a position to keep up a relentless pressure on a defending army, until they have been worn down by battle.

A country, temporarily on the defensive, must dispose of industrial resources and man-power sufficient to saturate the theatre of war with the density of weapons and troops required for victory. This includes the power to produce the latest and most efficient weapons of destruction.

The determination to win at all costs is also a prerequisite for success in defence. A nation thrown on the defensive embarks on a stormy sea, and great nerve and courage are required to weather it.

In 1939 the Allies were ill-prepared for a war of any kind. They reckoned that they had neither the troops nor the equipment for an offensive, especially for an offensive across the Rhine and the Siegfried Line. The French had made elaborate defences in the south but unlike the Germans with their Siegfried Line had not extended them to cover their northern frontier. There were "*projets*" for an advance into Belgium to support the Belgians in the defence of their country, but there was no plan for a large scale drive into Germany backed up by all the armour and reserves which could be scraped together. The early months of the war saw the BEF devoting itself to the construction of elaborate defences of the 1917 concrete type and neglecting to train its divisions in the attack, for which it had, however, not the necessary armour or equipment. We now know that the German divisions were also insufficient and ill-equipped and that during the campaign against Poland, the western front was only lightly held and might have been penetrated by the Allies. The opportunity of getting up to the Rhine was, however, missed. The political effects of doing so might have been very great.

Having already concluded a pact with Russia, the German armies finished off the Polish war in a "blitz" campaign and were free to tackle the West. They did so by skilfully massing armoured divisions and lorried infantry in the difficult hilly country of the Eifel and by debouching from there through the woods of the Ardennes across the Meuse at Dinant. The presence of a

heavy concentration in the Eifel was known to the Allied intelligence sections but no deduction was drawn from it of the storm which was about to break on France. It is to be noted *en passant* that armoured formations do not assemble in unsuitable terrain without excellent reasons for doing so. At Dinant the German heads of columns hit a second-line French division ill-provided with defences and possessed of neither the weapons nor the fierce determination to knock out the tanks, which were the spearhead of the German attack.

In spite of this irruption of German armour into France close to the junction of the British-French Armies, the BEF left its partially completed defences on the Belgian frontier and in accordance with the pre-conceived "*projet*" rushed madly forward seventy miles to meet the German right wing which, at the same time, had sprung the Albert Canal into Belgium. The French High Command had clearly no sufficient information or appreciation of the scale of the German thrust on the Meuse, otherwise it would surely have discarded plan "D" in favour of something more in tune with events. Somehow or other a defending army must get essential information of this kind, for it has not got the initiative and therefore has to follow very closely what the enemy is doing.

The BEF had, from the beginning of the operation, practically no hope of preserving its contact with the French Army. This would probably have been true even if the German heads of columns on the Meuse had had no tanks at all. As they had a large number and well knew how to use them, the escape of the greater part of the personnel of the British Army from Dunkirk was indeed the miracle which it was proclaimed. Lord Gort by his quick decision and great efforts undoubtedly saved his army from being surrounded and destroyed in what the Germans aptly call a "*kessel*," or cauldron, and he has never had sufficient credit for doing so. The "*kessel*" tactic was fated often to appear in the 1941–45 war against Russia, and literally millions of Russian soldiers were rounded up and captured by its agency.

When Germany fell on Russia in 1941, the Russians were to some extent surprised and it is probable therefore that Russian defences in the East were not fully developed, especially in the business of positioning reserves and plans for counter-attack. Detailed information on the subject is hard to get. The strong probability is that their defences on such a wide front were fragmentary and like the curate's egg, only good in parts. At all events the German attacks were at first almost

uniformly successful and "*kessels*" made huge inroads into the Russian reserves.

Thus in the opening period of Hitler's war, the German attacks overran large portions of Poland, Holland, Belgium, France, Norway and Russia chiefly owing to the pace of the advancing columns and the skilful use of the armour in the lead. In the actual event, defences in depth of the kind that became familiar in the Kaiser's war were either not attacked at all or were overcome by a brisk thrust which took the defence by surprise. Plans for counter-attack on a large scale were either not in existence, or if they were, they were never able to materialize owing to the speed of the advance.

The result of all this success in the attack has been to discredit the defence as a form of warfare and largely to discount the value of fixed defences, which played such a great part in 1914–19.

But although commanders who ask for time are usually everywhere displeasing figures, it will often still be necessary to fight for it, and some sort of doctrine for the defence will be required. In Korea, for instance, the Americans have been fighting for time.

The democracies of the West, who do not plan aggressive war, are bound to require to fight on the defensive whilst they develop their strength, and the prospect of having to do so must not fill their commanders and their troops with gloomy forebodings.

If the prerequisites for successful defence already mentioned can be assured, the defence under modern conditions will not be a gloomy role at all and it will lay the sure foundations of a later victory. Commanders must make their troops understand this as skilfully as Stonewall Jackson persuaded his tireless soldiers that they could win defensive battles in the Shenandoah Valley. Defensive war requires a certain brilliance of performance which can only be produced by soldiers who believe it can be done and that they are the men to do it. A school of thought must therefore arise which declares defence to be a necessity of war and that it must be met like a necessity, and those who believe that defensive war is a possible proposition should start now to prepare the ground, so that it will not have to be done in great haste when war starts.

What in 1914–19 were known as "properly organized defences" were earthworks and concrete structures several miles in depth which were pretty certain to hold up infantry and could even now be made most formidable for tanks. But they constituted in their most developed form a veritable labyrinth, whose

garrisons, ensconced in underground shelters, were "dugout-minded" and ill-placed even for local counter-attack, not to mention counter-attack in a big way, which is the prime object of being on the defence at all. They took a long time to construct and absorbed so many men when fully held, that they defeated the object of the defence which is to economize man-power — moreover, even in the worst days of the siege warfare of 1914–19, they could be pierced by a well-mounted attack.

But the well-mounted attack of to-day has a spear-head of armour and lorried infantry, which can work really fast once it has got through the original defences. The "break-through" of 1914–19 was headed by infantry; the break-through of 1939–45 is headed by a mass of armour. This mass of attacking armour and the haunches of the "GAP" through which it came are the crux of the problem which faces the defence. If the haunches of the "GAP" can be pushed open still further, reserve formations can follow the attacking armour and add to the momentum of the advance. But if the haunches of the "GAP" are pushed in by the defence, the "GAP" can be closed and the attack can be sealed off.

The battle of the "GAP" was a familiar one to commanders in 1914–19 and it is still of obvious vital importance. But it can be left for the moment to follow the armour and lorried infantry which has penetrated the "GAP."

One of the curious features of the Battle of France in 1944 was the persistance of the German High Command in the idea that the Allied landing would take place in the Pas de Calais area where the terrain was most unsuitable for armour. Normandy was far better in this respect and was also just within the endurance distance of fighter aircraft, i.e. about a hundred miles. The endurance distance of fighter aircraft for the invasion of Sicily was about the same. Anyone who worked on this premise would have selected Normandy as our probable landing area.

It is a coincidence that the endurance distance of a tank and its crew is also about a hundred miles; if therefore a defending commander in the tumult of battle loses track of the attacking armour, he can expect to find it somewhere within about a hundred miles. In other words he must deal with it in that distance. Just as the endurance of the fighter aircraft settled the possible radius of a landing so the endurance of the tank settles the depth of the defensive battle. In the Peninsula a thin red line of British infantry often provided sufficient depth for the defence. In 1914–19 ten miles of depth for the defence was not an uncommon

allowance. At the present day ten times as much depth is necessary. It is at first a novel and disturbing thought to picture a battlefield a hundred miles square, but it is a reality which has to be faced. Troops on the defence have to realize with equanimity that forward positions may often be overrrun by armour of the attack and that tremendous demands will be made on their morale and fighting spirit. In the Waterloo campaign the battle began in earnest when Napoleon crossed the Meuse at Charleroi. He then defeated Blücher at Ligny and Wellington at Quatre Bras, pursuing the latter headlong with his cavalry to Waterloo, where Wellington halted and offered battle on a position he had in his mind as suitable for covering Brussels. Knowing that Blücher's army was not seriously damaged and that it would march to reinforce him, Wellington drew up his famous squares of British infantry and waited for Napoleon to do his worst. By the early afternoon of Waterloo Napoleon had exhausted his reserves trying to break the British line. About five o'clock the Prussian columns from Wavre began to hit Napoleon's right wing. The moment was ripe for a decisive British counter-attack which was duly delivered and finished the campaign. All this took place in an area about thirty miles square.

If it took thirty miles of depth to defeat Napoleon in the campaign of Waterloo, it is not unreasonable to ask for a hundred miles of depth for a modern defensive battle. It is to be noted, by the way, that both the British and the Germans were severely defeated and chased from the field on the 16th of June and that nevertheless both of them fought with the utmost determination and success on the 18th of June. Troops on the defensive must be able to react in this great-hearted manner.

Reverting again to the "GAP" in the "properly organized defences" through which the attack has penetrated with tanks and lorried infantry, it is clear that the troops in the defences, which have not been overrrun, are ill-placed to do much against the attacking armour. Those on the flanks of the "GAP", however, can be used to hold on to the haunches on each side with a view to driving them in as early as possible and those farther away can be thinned out to provide the force to do it. But the attacking armour and lorried infantry must mainly be dealt with by troops other than those in the forward position.

Now although the initial set-piece attacks of the Germans were brilliantly successful, they were later on in Russia often compelled to stand on the defensive. In the winter of 1941–42 they developed the so-called "hedgehog", which was the name

given to a defended point of manœuvre in the forward zone or to a defended magazine on the line of communications. These "hedgehogs" were of great tactical value throughout the campaign and something of the kind will continue to be useful in the defence.

In the "hedgehog", defences, *qua* defences, play the same role as they did at Syracuse under Archimedes, in the Crimea under Toldeben, and in all the great sieges of history. They are tolerably certain to be attacked, as they cover essential points and their garrisons can plan the defence accordingly.

The Crimea was again the scene of weeks of bitter fighting in 1941–44 when it held up the Germans and the Russians in turn, in weeks of bitter fighting, as the tide of war flooded first far to the east and then grimly ebbed back to the west. Here "organized defences" of the old 1914–19 pattern once more demanded a heavy toll from the attack. In a restricted area, which the attack must penetrate, there is therefore still ample scope for defences.

The "hedgehog" idea is not a new one. Even in the confusion of the German armoured push into Northern France in 1940 there were British commanders who preserved the cohesion of their units by occupying such positions, whereas those who tried to occupy miles of front with insufficient forces were inevitably and speedily overrrun. Let us hope that the division deployed on a twenty-mile front with the idea of withstanding an enemy armoured attack in full career has gone for ever. It bears no relation to war.

Now if a number of these "hedgehogs", which were a proved success in recent warfare, can be dotted about in the defensive battle area with its hundred miles of depth, they will undoubtedly break up an enemy armoured attack. Indeed they will, on a far more extended battlefield, break up the hostile tank attacks just as the British squares broke up the *élite* of Napoleon's cavalry and exhausted his reserves.

The German Sixth Army in its advance to the Volga in 1942 never succeeded in capturing Stalingrad which was on that river. They lost thousands of men, which they could ill-spare, trying to do so. It will be useful then, if the far edge of the battle area, a hundred miles deep, can muster one or two "Stalingrads."

The widely flung defensive battlefield is now taking shape in its depth and with its "hedgehogs", but the forward defences have not been touched upon nor has the all important counter-attack. It has already been shown that the troops in forward defences are ill-placed for the counter-attack of an enemy which has thrust through them with

armour. As the numerical disadvantage of the defence may be as bad as 1 to 4, it is obviously futile to put any large percentage of the defending formations in the forward positions. The defending commander, just like Wellington at Waterloo, is hoping to defeat the enemy after they have become unbalanced on ground of his own choosing and not before—Wellington could see the dispositions of the enemy through his famous spy-glass, but the defending commander of to-day has to rely on reports. Without reasonably accurate speedy information he can take no effective steps to mount a counter-attack. He must therefore at least have a good outpost line of observation supplemented by air reconnaissance and every other intelligence device that can be brought to bear. Mountains make a good outpost line, because they usually have few and difficult approaches, but an enemy in quest of quick results will not usually choose a mountainous theatre of war in which to deploy the bulk of his army.

In the plains of Europe a broad river is probably the best outpost line and is also an obstacle which can be quickly covered by the defence if only from the air.

In the matter of reports the modern commander has a difficult time. Too often he gets none at all — "I am sick of carrying this —— bird," says the pigeon carrier of 1917 and lets it go. Now if an army has more intelligent soldiers than those of the enemy, it should have a great advantage in this supremely important business of quick and accurate reports. The means of communication are now technically superb; troops must be trained to use them effectively. The outpost line must do what it can to hinder any crossing attempted by the enemy and some reserves with armour must be at hand for the purpose, but its chief job is to get accurate information on the scale of the hostile attack and its object.

Having pictured the outpost line doing what it can with extremely limited resources to close the "GAP" and also sending back clear and intelligible information about the enemy's break-through, it is now necessary to consider the all-important counter-attack.

There are many patterns for this in the 1939-45 war which are worth study. In January, 1943, the Russians started a big offensive in Southern Russia. They crossed the upper Don to capture Kursk on the north on the 8th of February — two weeks later they entered the Donetz bend and threatened Rostow on the lower Don. The capture by the Russians of the Donetz bend endangered the retreat of the German divisions in the Northern Caucasus and something had to be done about it. The

Germans therefore staged a counter-attack in two directions at right angles, which penetrated the Russian front north of the Donetz and isolated the bend which lies north of the Sea of Azov. The Russians saw that the Donetz bend was likely to become a considerable "*kessel*" and without worrying about prestige hastily cleared out. The Germans then held the Donetz bend long enough to secure the retreat of their divisions in the Northern Caucasus either through Rostow or the Crimea. This was an interesting use of a river junction and bend as a trap — which nearly snapped up a large number of prisoners. Another feature is the desperate situation which it relieved — good troops keep their nerve.

If the Supreme HQ of the Allied Expeditionary Force had had an inkling of the German attack in the Ardennes early in 1945, what a counter-attack could at once have been delivered! The Allied armies were not on the defensive so that the German attack came as a complete surprise. Even so the counter-attack which was soon set in motion from "scratch" nearly sealed off the German thrust and inflicted losses which settled the fate of the German armies in the West. One of the most interesting features of the battle was the gallant American defence of Bastogne, which it should be noted became an impromptu "hedgehog". The Meuse as the final stop is also significant. The area of the battle-field was about fifty miles square. The Russian counter-attack at Stalingrad in 1942 against the German Sixth Army was a beautifully timed operation delivered in the middle of the winter. It resulted in the capture of the whole German Army. A counter-attack which puts a whole army "in the bag" is obviously worth study. The envelopment was about fifty miles deep.

Lack of space permits only a passing reference to examples from 1949–45 of notable counter-attacks, but they give an indication of what can be done. It is impossible here to work out the details of the counter blow but it must be done in a grand manner and aim at an envelopment of the "*kessel*" kind. Fast moving armour, artillery and lorried infantry with aircraft under command will be available for the job. Huge hauls of prisoners are a feature of modern war and there can be no surer way of reducing an enemy's reserves than by starting early in the war to make them.

Before summing up these rough ideas on equally rough diagrams* a few general remarks on the principal weapons of the defence are necessary.

**The author's rough diagrams have been redrawn by the Journal's draughtsman (see pages 75 and 76).—Editor.*

In suitable country the attack will rely for a break-through on tanks supported by infantry and infantry in lorries. There can be no tank which a special HV shell of sufficient size will not penetrate. In the last war anti-tank gun design lagged behind tank design. As we seem fated for ever to be at first on the defensive, it would seem wise to make certain of the anti-tank gun design now and to give it top priority over all other land weapons. The infantry have anti-tank weapons other than guns which are of great importance, but they are close range weapons and leave the tricky business of tank destruction rather late, often too late.

Having decided that an anti-tank gun of suitable performance is the prime weapon to take on the tank, the quick disposal of the attacking infantry is the next problem. In the end captured ground has to be occupied by infantry, and the best weapons for destroying infantry are still small arms. Anyone who has seen the effect of even one properly handled medium machine-gun on a line of skirmishes will be difficult to convince that it is not still the best destroyer of infantry.

The steadiness of its platform makes it a more accurate weapon than the light machine-gun. It ranges farther and lends itself well to the quick pegging out of the defensive battle which is always a matter of supreme importance. The handling of medium machine-guns by the retreating Germans of 1918 was a most notable defensive tactic which should not be entirely forgotten. The guns were then carried on horse-drawn limbers and fired from the ground. To-day they could be carried in infantry-carriers and still fired from the ground. Here it will be argued that they must be protected by armour if they are to be effective — in other words they must be in tanks. It is argued in the same way that the anti-tank guns must be in a tank.

Now directly tanks come into the question, tank design at once crops up, and to the designing of bigger and better tanks there is no end. A pair of medium machine-guns inserted in a tank must cost possibly twenty times as much as a pair of carrier-borne medium machine-guns. An anti-tank gun of large calibre in a tank must be five times as expensive as the same gun on a self-propelled carriage. Tanks moreover take longer to make. Weapons in the defence are necessarily dispersed whereas tanks ought to be used in concentrations for counter-attack: they should not normally be used in homœopathic doses scattered about a battlefield in "hull down" positions.

In a "hedge-hog" position a hundred carrier-borne medium machine-guns would be worth more to the

commander than five female tanks each mounting two medium machine-guns. He would also often prefer to have five SP anti-tank guns rather than one anti-tank gun in a tank. Many argue that there is a saving of man-power in the use of tanks for medium machine-guns and anti-tank guns in the defence, because they dispense with the extra gun numbers required for handling ammunition and traversing the guns. This argument is largely fallacious. Tank crews have not a long endurance and require frequent reliefs. The technical demands of each tank are also very heavy, so that the technical "tail" of an armoured formation is appallingly large and unwieldy. Tank crews are an *élite* and will always be in short supply, like any other *élite*. The conditions under which they have to fight are extremely exacting and demand more than average nerve, intelligence, skill and endurance. The medium machine-gun and the anti-tank gun in the open are simpler propositions, and the average soldier can be quickly trained to handle them. They can be made quicker and their loss is not so serious as the loss of a tank as replacement is so much easier. The loss of tanks is "stop press" news; that of machine-guns is not. Armour is of decisive importance without a doubt, but it cannot win battles by itself. We must not be hypnotized by it to the exclusion of simpler weapons which can be used by the average soldier often with greater effect. At Bannockburn Robert Bruce was mounted on a pony and was unarmoured. The magnificent armour and the thundering steed of the knight who rode at him so fiercely were of little avail against a quick turn of the pony and a back-hander with a battle-axe.

The Russians are believed to have twice as many guns in their divisional artillery as Western armies and twenty-five per cent. of such artillery is used in direct fire positions with the infantry. There is something of the Robert Bruce touch in this procedure also. Knocking out tanks in the open is surely an artillery problem pure and simple. Sometimes the gun that does it will be in a tank, as in the attack; and sometimes not, as in the defence.

There is endless other technical detail in the defensive battle which cannot be studied here. Mines, obstacles, mortars, infantry, close defence weapons, guerillas and propaganda are amongst them, also the best design of earthworks for the defence. But a broad framework has been suggested that can now be more clearly indicated on the two diagrams given on pages 75 and 76.

SUMMARY AND NOTES ON DIAGRAMS

1. Local air superiority for major movements by day essential.

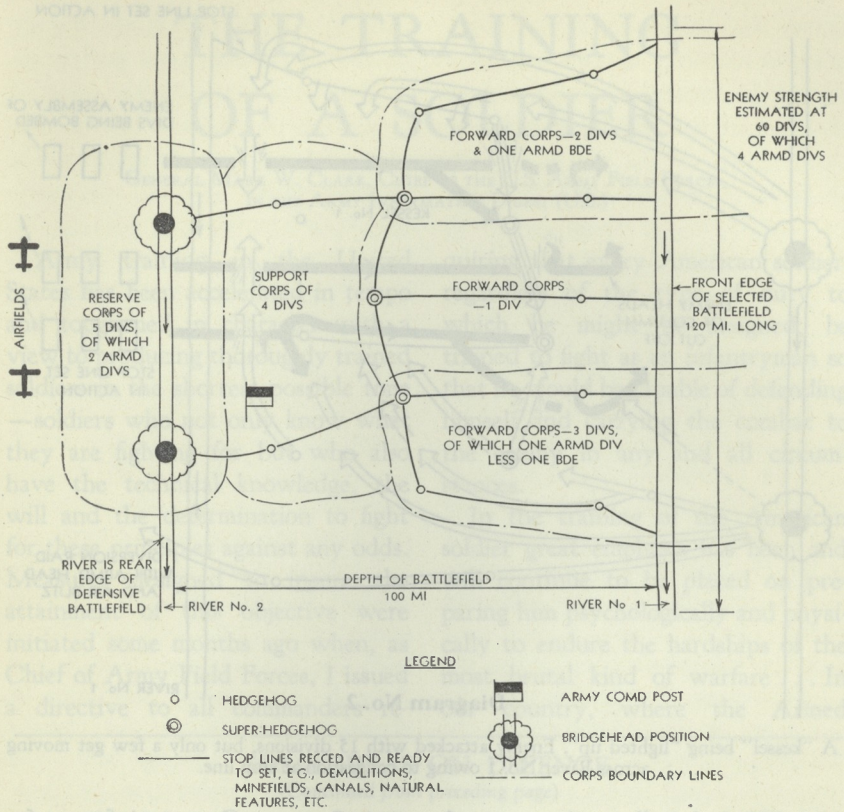


Diagram No. 1

This shows locations of an Army of 15 divisions, of which three Armoured divisions, disposed for a defensive-offensive battle.

2. Wings of the Army should be strong—centre weak—same in forward Corps areas.

3. Each forward Corps area to be planned as a possible "*kessel.*" The direction of the enemy thrusts will indicate which "*kessel*" is to be "lighted up."

4. Signal and Intelligence networks cover the whole battlefield throughout the action. Intelligence specially trained to produce short, accurate reports.

5. "Hedgehogs" contain food, ammunition, POL. No POL anywhere else on the battlefield except in normal echelons. Civilian POL security plan essential.

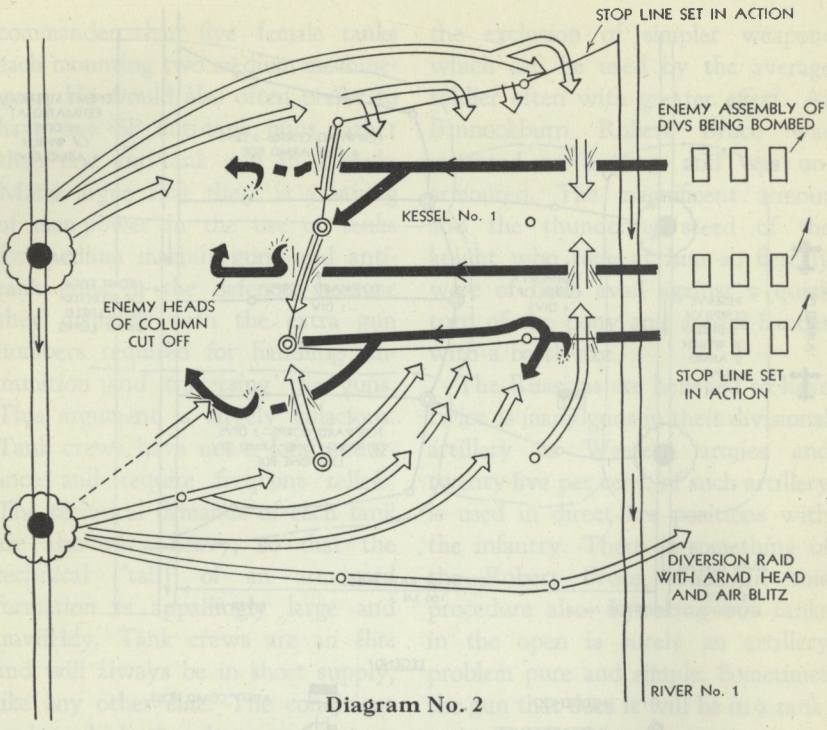


Diagram No. 2

A "kessel" being "lighted up". Enemy attacked with 15 divisions, but only a few get moving across River No. 1 owing to congestion at stop line.

6. "Hedgehogs" to have simple earthwork defences made by civilians directed by the Engineers, planned in advance for *all* towns, whether selected as "hedgehogs" or not. Study suburbs as tank stops.

7. Defences of "hedgehogs" contain only elements of their garrisons till the weight and direction of enemy thrusts are disclosed.

8. Except observation groups on River No. 1, all formations in positions of readiness to move at short notice.

9. Support Corps reinforces forward Corps as ordered by Army.

10. Support and reserve Corps to have sufficient motor transport to be able to move at 20 MIH. Forward Corps can move one division at a time at 20 MIH.

11. *Routes gardées* for all move forward from support and reserve Corps into forward areas.

12. Civilians to be thrown off all routes earmarked as *Routes gardées*.

(Continued on next Page)

THE TRAINING OF A SOLDIER

General Mark W. Clark, Chief of the U.S. Army Field Forces,
in the Army Information Digest (U.S.)

Army training in the United States has been accelerated in tempo and toughened in character with a view to producing thoroughly trained soldiers in the shortest possible time —soldiers who not only know what they are fighting for but who also have the technical knowledge, the will and the determination to fight for these principles against any odds. Measures designed to insure the attainment of this objective were initiated some months ago when, as Chief of Army Field Forces, I issued a directive to all commanders requiring that every American soldier, regardless of the type of duty to which he might be assigned, be trained to fight as an infantryman so that he would be capable of defending himself and carrying the combat to the enemy in any and all circumstances.

In the training of the American soldier great emphasis has been and will continue to be placed on preparing him psychologically and physically to endure the hardships of the most brutal kind of warfare . . . In our country, where the Armed

SOME IDEAS ON DEFENCE

(*Continued from preceding page*)

13. The defence must have sufficient armour, but sufficient good infantry divisions are also essential for the defence. Proportion about 1 to 4 reasonable in close terrain— for wide country, more infantry is required.

Troops who cannot stand punishment will be no use at all for an elastic defence of the kind suggested. Their leaders, their morale, their equipment and their general fitness for war require to be as good as any that have ever won fame in the long and bloody history of war.

If they can attain to such a standard they will be formidable in the defence, especially in close country and with a high ratio of supporting aircraft of the same high quality as themselves. Their combined success might yet indicate that, as a means of victory in war on land, gigantic armies are "on the way out." For the future progress of the world this is a consummation much to be desired.

Forces are comprised of men who, prior to entering the service, have been accustomed to the enjoyment of those freedoms and comforts so characteristic of the American way of life and who, in the composite, represent a true cross-section of American youth, the transition from a peaceful, contented civilian to a hardened, seasoned soldier is admittedly not an easy one. It has been done before, however, and is being accomplished again, successfully.

Under present world conditions of possible aggressor attack without warning, time is a most essential factor in training the new soldier. Each Army trainee is now subjected initially to 14 weeks of the most arduous individual training in the United States. The first six of these weeks are devoted to training in the fundamentals of basic infantry combat to include squad tactics and in basic subjects common to all arms and services. The last eight weeks are utilized for specialized training in the particular arm or service to which he is assigned.

After completing this training, some of the trainees will be shipped to a battle area as replacements if the exigencies of the situation require it. In that case, the new soldier takes his place as a member of a unit engaged or likely to be engaged in active operations. From then on, his association with more experienced soldiers increases his seasoning and proficiency.

Those trainees who are assigned to units in the United States receive additional advanced training as members of the unit and participate with the unit in field exercises in which other arms and services take part. Throughout this period the trainee is continually reminded that he is a member of a team, that his unit is part of a larger team. He is taught, and he learns, the role which he is expected to play in welding individuals and units into a co-ordinated and effective fighting force.

Training today is being accomplished in the minimum of time consistent with the best interests of both the individual and the Nation. Subjects covered are the same as those included in previous training programmes but time has been saved through the elimination of non-essentials and the adoption of methods which permit the combining of instruction in two or more subjects in a single training period.

Elimination of non-essentials from the training programme was accomplished by cutting out all instruction that does not have a direct and positive bearing on preparing the soldier to take care of himself—preparation that will enable him to give a good account of himself in combat or in support of combat. The whole

field of training was studied for ways and means to reduce the time factor without destroying its effectiveness.

In order to minimize the adverse effect of a sudden emergency necessitating the tactical employment of combat units still undergoing training, the unit training programmes are arranged so that subjects are taken up in order of importance in the preparation of troops for combat, in accordance with priorities established by the Office, Chief, Army Field Forces.

Throughout the training period a Troop Information Programme is presented once a week. This programme is designed to assist the trainee in his transition from civilian to Army life and to help him understand why he is in the Army, what he is fighting for and the part he plays in the national defence team. In other words, we are trying to make certain that the American soldier clearly understands and firmly believes in the cause for which he is fighting—so much that he is willing, if necessary, to sacrifice his life for that cause.

In our training programme a substantial amount of time is devoted to toughening the soldier mentally as well as physically to withstand the shock and exhaustion of battle, enabling him to act calmly and with sound judgment regardless of the noise and confusion of the conflict around him. Such training is absolutely necessary lest in the heat of battle he forget how to use his weapon, how to take advantage of cover and concealment and how to do all the other things he has been taught.

To provide training under conditions approximating those encountered in combat, a series of battle indoctrination courses are employed. Similar courses were used extensively during World War II to provide realism in training. The training accidents that occurred during these wartime courses were lamentable but insignificant in comparison with the lives saved in combat because of the fact that our troops had been made thoroughly familiar with combat conditions beforehand.

Approximately one-third of all tactical training exercises are now conducted at night. In these exercises the soldier learns the difficulties peculiar to night operations and is trained to avoid or overcome them. He also learns the great advantages that may be gained by probing enemy lines aggressively and attacking the enemy under cover of darkness.

Service schools for both officer and enlisted personnel play a major role in the training programme by relieving unit commanders of the added burden of conducting special leadership courses for officer candidates and potential non-commissioned officers and of training the more highly technical specialists. The basic in-

struction at these schools, revised as necessary to keep pace with the latest developments in doctrine, organization and equipment, remains generally the same as it was formerly. Courses have been shortened, however, through the introduction of longer work weeks and the elimination of subjects considered desirable but not strictly essential to the education of the student for the specific purpose in view.

Our overall training programme includes not only the Regular Army and those units of the National Guard and Organized Reserve which have been called into active service but also the units of these two reserve components that have not yet been mobilized. Because the maintenance of large, permanent armed forces is foreign to our idea of democracy, the national security of the United States always has been and probably always will be dependent in great measure on the reserve components of our Army. It is particularly fortunate at this time, therefore, that because of increased concentration of effort on the training of National Guard and Organized Reserve units in recent months and the presence in these units of a large number of World War II combat veterans, Army Field Forces has been able to reduce substantially the 36 weeks formerly required to complete the training of one of these units subsequent to its induction into the Federal service.

With a view to finding out at first hand the lessons being learned by our troops in Korea, I have dispatched from time to time to the combat zone representative groups of officers from Army Field Forces. Other groups will be sent over as the situation warrants. Some of these teams already have returned and reported their conclusions and recommendations covering, among other things, training organization and equipment.

Great strides have been made since World War II in research and development relating to new weapons. And while we know what we want, we have no super-secret weapons which will bring victory overnight. New weapons we have—some still on the drawing board and some in production that we can be using soon. But despite the fact that we might have the best equipped Army in the world, our men must be trained to handle those new weapons and handle them skillfully.

The ultimate goal of our training in the Army is success in battle. There are no get-rich-quick or push-button methods by which wars can be won in the foreseeable future without fighting ground battles. It always has been, and it still is, the infantryman with his stout and courageous heart who is the dominant factor on the field of battle.

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